

COMPUTER EDUCATION

CLASS- VII



Strictly as per KVS syllabus



सत् त्वं पूषन् अपावृणु
केन्द्रीय विद्यालय संगठन

Developed by - KVS REGIONAL OFFICE GUWAHATI



Kendriya Vidyalaya Sangathan



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केन्द्रीय विद्यालय संगठन

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Syllabus Content VII

Quarter – April to June

<i>Sl. No.</i>	<i>Units</i>	<i>Contents</i>	<i>No. of Periods</i>
1	1. Computer	1.1 Threats to computer	QUR
		2. Security	
	1.2 Virus and its types		
	1.3 Anti Virus software and examples		
	1.4 Firewall and its use		
	1.5 Cyber Crime and Computer Ethics		
	1.6 Hackers and crackers		
	1.7 Cyber law and importance		
2	3. HTML	1.8 Backup and Restore	9
		2.1 Heading (H1 to H6)	
		2.2 , <hr> ,<comment>	
		2.3 Background Color ,font tag(size, face, color)	
		2.4 Text alignment (center, left , right)	

Minimum level of learning

Child should be able to secure his/her computer from various threats

Can tell what is cyber crime and understand the importance of cyber law



Formative Assessment – 1

Quarter – July to September

3	4. HTML	3.1	Paragraph formatting Tags	10
		3.2	List Tags	
		3.3	Order (start and type attribute) and Un order List	
		3.4	Background Image and other Image Insertion in Web Page with alignment	
		3.5	Creation of table	
		3.6	Anchor Tag	
		3.7	Hyper Link	
4	5. Photoshop Introduction Using Layers	4.1	DTP and its softwares	12
		4.2	Starting Photoshop	
		4.3	Tool Palette	
		4.4	How to create a new file	
		4.5	How to save a file	
		4.6	How to open an Existing file	
		4.7	How to use Photoshop tools	
		4.8	Using Layers	
			4.7.1 Learning Layer Basics	
			4.7.2 Using Layers palette	
			4.7.3 Rearranging Layers	
			4.7.4 Applying a Layer Style	
	4.7.5 Flattening and saving files			

Minimum level of learning

Child should be create a web page using tags taught in the class

Formative Assessment – 2

Summative Assessment – 1



Quarter – October to December

5	Photoshop (continued)		20
5.1	Rectangular Marquee	Rectangular Marquee 5.1.1. Elliptical Marquee 5.2.1. Single column Marquee 5.3.1. Single Row Marquee	
5.2	Lasso	Lasso 5.1.2. Polygonal Lasso 5.2.2. Magnetic Lasso 5.3.2. Quick Selection 5.4.2. Magic Wand	
5.3	Crop and Slice tools	Crop and Slice tools 5.3.1 Crop 5.3.2 slice 5.3.3 Slice Select	
5.4	Measuring tools	Measuring tools 5.4.1 Eyedropper 5.4.2 color Sampler 5.4.3 Ruler 5.4.4 Note 5.4.5 Count	
5.5	Retouching tools	Retouching tools 5.5.1 Spot Healing Brush 5.5.2 Healing Brush 5.5.3 Patch 5.5.4 Red Eye 5.5.5 Magic Eraser 5.5.6 Blur 5.5.7 Sharpen 5.5.8 Smudge 5.5.9 Dodge 5.5.10 Burn 5.5.11 Sponge	

Minimum level of learning

Introduction of tool with its use to be demonstrated to students

Practical exercise to be given to students so that they can learn the specified tool

Child should be able to understand the use of Photoshop

Should be able to identify various tools and where to use the tool

Should be able to make changes in the picture using tools taught in the class

Quarter – January to March

6	Painting Tools in Photoshop	6.1	Brush	12
		6.2	Pencil	
		6.3	Color Replacement	
		6.4	Mixer Brush	
		6.5	History Brush	
		6.6	Art History Brush	
		6.7	Gradient	
		6.8	Paint Bucket	

Minimum level of learning

Should be able to identify various tools and where to use the tool

Should be able to make changes in the picture using tools taught in the class

Introduction of tool with its use to be demonstrated to students

Practical exercise to be given to students so that they can learn the specified tool

Formative Assessment – 4

Summative Assessment – 2

Projects to be completed in the session :-Work Experience :-

1. Chicken Coop Design

Art Education:-

1. Composition, Animal Poster
2. Shapes, Small Park Design



Contents

Computer Security 1

Threats to computer
 Virus and its types
 Anti-Virus software and examples
 Firewall and its use
 Cyber Crime and Computer Ethics
 Hackers and crackers
 Cyber law and importance

Html 12

Heading (H1 to H6)

, <hr> ,<comment>
 Background Color ,font tag(size, face, color)
 Text alignment (center, left , right)

Html 21

Paragraph formatting Tags
 List Tags
 Order (start and type attribute) and Un order List
 Background Image and other Image Insertion in
 Web Page with alignment
 Creation of table
 Anchor Tag
 Hyper Link

Photoshop Introduction 31

DTP and its softwares
 Starting Photoshop
 Tool Palette
 How to create a new file
 How to save a file
 How to open an Existing file
 How to use Photoshop tools

Using Layers

Learning Layer Basics
 Using Layers palette
 Rearranging Layers
 Applying a Layer Style
 Flattening

and

Photoshop 40

Rectangular Marquee

Elliptical Marquee
 Single column Marquee
 Single Row Marquee

Lasso

Polygonal Lasso
 Magnetic Lasso
 Quick Selection
 Magic Wand

Crop and Slice tools

Crop
 slice
 Slice Select

Measuring tools

Eyedropper
 color Sampler
 Ruler
 Note
 Count

Retouching tools

Spot Healing Brush
 Healing Brush
 Patch
 Red Eye
 Magic Eraser
 Blur
 Sharpen
 Smudge
 Dodge
 Burn
 Sponge
 Brush

Painting Tools in Photoshop 53

Pencil
 Color Replacement
 Mixer Brush
 History Brush
 Art History Brush
 Gradient
 Paint Bucket

Lesson-1

Computer Security

Threats to computer Security

What do they mean by a threat?

A threat, in the context of computer security, refers to anything that has the potential to cause serious harm to a computer system.

A threat is something that may or may not happen, but has the potential to cause serious damage. Threats can lead to attacks on computer systems, networks and more. A threat can be either "intentional"(i.e., intelligent; e.g., an individual cracker ora criminal organization) or "accidental" (e.g., the possibility of a computer malfunctioning, or the possibility of a natural disaster such as an earthquake, a fire, or a tornado) or otherwise a circumstance, capability, action, or event.

Virus

Computer Virus are nothing but computer program that do unwanted things with your computer resources e.g. you are working on PC and you are repeatedly receiving annoying message

- **Viruses:** A virus is a small piece of software that piggybacks on real programs. For example, a virus might attach itself to a program such as a spreadsheet program. Each time the spreadsheet program runs, the virus runs, too, and it has the chance to reproduce (by attaching to other programs) or wreak havoc.
- **E-mail viruses:** An e-mail virus travels as an attachment to e-mail messages, and usually replicates itself by automatically mailing itself to dozens of people in the victim's e-mail address book. Some e-mail viruses don't even require a double-click -- they launch when you view the infected message in the preview pane of your e-mail software.

You will learn

- ✓ Threats to computer
- ✓ Virus and its types
- ✓ Anti Virus software and examples
- ✓ Firewall and its use
- ✓ Cyber Crime and Computer Ethics
- ✓ Hackers and crackers
- ✓ Cyber law and important
- ✓ Backup and Restore

- **Trojan horses:** A Trojan horse is simply a computer program. The program claims to do one thing (it may claim to be a game) but instead does damage when you run it (it may erase your hard disk). Trojan horses have no way to replicate automatically.
- **Worms:** A worm is a small piece of software that uses computer networks and security holes to replicate itself. A copy of the worm scans the network for another machine that has a specific security hole. It copies itself to the new machine using the security hole, and then starts replicating from there, as well.
 - **Virus Origins** (<http://computer.howstuffworks.com/virus1.htm>)

Why they are called Virus?

Computer viruses are called viruses because they share some of the traits of biological viruses. A computer virus passes from computer to computer like a biological virus passes from person to person.

Similar to the way a biological virus must hitch a ride on a cell, a computer virus must piggyback on top of some other program or document in order to launch. Once a computer virus is running, it can infect other programs or documents.

What /who make virus?

who: People write computer viruses. A person has to write the code, test it to make sure it spreads properly and then release it. A person also designs the virus's attack phase, whether it's a silly message or the destruction of a hard disk.

Why:

1. The first is the same psychology that drives vandals and arsonists. For some people, that seems to be a thrill. If that sort of person knows computer programming, then he or she may funnel energy into the creation of destructive viruses.

2. The second reason has to do with **the thrill of watching things blow up**. Some people have a fascination with things like explosions and car wrecks. Creating a virus is a little like that -- it creates a virtual bomb inside a computer, and the more computers that get infected, the more "fun" the explosion.

3. The third reason involves bragging rights. Sort of like Mount Everest -- the mountain is there, so someone is compelled to climb it. If you are a certain type of programmer who sees a security hole that could be exploited, you might simply be compelled to exploit the hole yourself before someone else beats you to it.

4. And then there's cold, hard cash. Viruses can trick you into buying fake software, steal your personal information and use it to get to your money, or be sold on the digital equivalent of the black market. Powerful viruses are valuable -- and potentially lucrative -- tools.

Virus History

Traditional computer viruses were first widely seen in the late 1980s,

Some Virus the Melissa virus in March 1999 was spectacular in its attack. Melissa spread in Microsoft Word documents sent via e-mail.

The ILOVEYOU virus, which appeared on May 4, 2000, was even simpler. It contained a piece of code as an attachment. People who double-clicked on the attachment launched the code. It then sent copies of itself to everyone in the victim's address book and started corrupting files on the victim's machine.

Worms: A worm is similar to a virus by design and is considered to be a sub-class of a virus. Worms spread from computer to computer, but unlike a virus, it has the capability to travel without any human action. A worm takes advantage of file or information transport features on your system, which is what allows it to travel unaided.

Worms use up computer processing time and network bandwidth when they replicate, and often carry payloads that do considerable damage.

Some example of worms: A worm called Code Red made huge headlines in 2001.

The Slammer worm (which caused mayhem in January 2003) exploited a hole in Microsoft's SQL server.

A worm called Storm, which showed up in 2007, immediately started making a name for itself. Storm used social engineering techniques to trick users into loading the worm on their computers.

Trojan Horse: A Trojan Horse is full of as much trickery as the mythological Trojan Horse it was named after. The Trojan Horse, at first glance will appear to be useful software but will actually do damage once installed or run on your computer. Some Trojan are designed to be more annoying than malicious (like changing your desktop, adding silly active desktop icons) or they can cause serious damage by deleting files and destroying information on your system. Trojans are also known to create

a backdoor on your computer that gives malicious users access to your system, possibly allowing confidential or personal information to be compromised. Unlike viruses and worms, Trojans do not reproduce by infecting other files nor do they self-replicate.

How to protect your system

- Keep The Operating System Updated
- Use a Firewall
- Anti-virus software is crucial to preventing virus attacks, but this strategy only works if users update their software.
- Know that the only way a virus spreads is either by launching an infected file or by booting an infected disk. You cannot get a virus by simply being online or by reading e-mail.
- Anti-Virus Software: vast, Avira, McAfee, Norton and many more

Firewall

A firewall is a system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software, or a combination of both. All messages entering or leaving the intranet pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria.

Hardware and Software Firewalls:

Firewalls can be either hardware or software but the ideal firewall configuration will consist of both. Hardware firewalls can be purchased as a stand-alone product but are also typically found in broadband routers, and should be considered an important part of your system and network set-up. Most hardware firewalls will have a minimum of four network ports to connect other computers, but for larger networks, business networking firewall solutions are available.

Common Firewall Techniques:

There are several types of firewall techniques that will prevent potentially harmful information from getting through:

1. Packet Filter

Looks at each packet entering or leaving the network and accepts or rejects it based on user-defined rules. Packet filtering is fairly effective and transparent to users, but it is difficult to configure. In addition, it is susceptible to IP spoofing.

2. Application Gateway

Applies security mechanisms to specific applications, such as FTP and Telnet servers. This is very effective, but can impose a performance degradation.

3. Circuit-level Gateway

Applies security mechanisms when a TCP or UDP connection is established. Once the connection has been made, packets can flow between the hosts without further checking.

4. Proxy Server

Intercepts all messages entering and leaving the network. The server effectively hides the true network addresses.

In practice, many firewalls use two or more of these techniques in concert. A firewall is considered a first line of defense in protecting private information.

Cyber Crime

Cybercrime encompasses any criminal act dealing with computers and networks (called hacking). Additionally, cybercrime also includes traditional crimes conducted through the Internet. For example; hate crimes, telemarketing and Internet fraud, identity theft, and credit card account thefts are considered to be cybercrimes when the illegal activities are committed through the use of a computer and the Internet.

Computer as a target

These crimes are committed by a selected group of criminals. Unlike crimes using the computer as a tool, these crimes require the technical knowledge of the perpetrators. There are numerous crimes of this nature committed daily on the internet:

Crimes that primarily target computer networks or devices include:

- Computer viruses
- Denial-of-service attacks
- Malware (malicious code)

Computer Ethics

Computer Ethics is set of moral principles that regulate the use of computers. Some common issues of computer ethics include intellectual property rights (such as copyrighted electronic content), privacy concerns, and how computers affect society.

1. You shall not use a computer to harm other people.
2. You shall not interfere with other people's computer work.
3. You shall not snoop around in other people's computer files.
4. You shall not use a computer to steal.
5. You shall not use a computer to bear false witness
6. You shall not copy or use proprietary software for which you have not paid.
7. You shall not use other people's computer resources without authorization or proper compensation.
8. You shall not appropriate other people's intellectual output.
9. You shall think about the social consequences of the program you are writing or the system you are designing.
10. You shall always use a computer in ways that ensure consideration and respect for your fellow humans.

Hackers and Crackers

A hacker is a person intensely interested in the arcane and recondite workings of any computer operating system. Hackers are most often programmers. As such, hackers obtain advanced knowledge of operating systems and programming languages. They might discover holes within systems and the reasons for such holes. Hackers constantly seek further knowledge, freely share what they have discovered, and never intentionally damage data.

A cracker is one who breaks into or otherwise violates the system integrity of remote machines with malicious intent. Having gained unauthorized access, crackers destroy vital data, deny legitimate users service, or cause problems for their targets. Crackers can easily be identified because their actions are malicious.

1. A white hat hacker breaks security for non-malicious reasons, perhaps to test their own security system
2. A "black hat" hacker is a hacker who "violates computer security for little reason beyond maliciousness or for personal gain"
3. A grey hat hacker lies between a black hat and a white hat hacker. A grey hat hacker may surf the Internet and hack into a computer system for the sole purpose of notifying the administrator that their system has a security defect,
4. A social status among hackers, elite is used to describe the most skilled.
5. A blue hat hacker is someone outside computer security consulting firms who is used to bug-test a system prior to its launch, looking for exploits so they can be closed

CyberLaw

Cyber means the use of Internet technologies and computers it includes computers, networks, software, data storage devices, Internet, websites, emails, ATM machines etc. To protect the cybercrime over Internet, this law is Passed to protect the Internet cybercrime. This law is approved by the government.

Cyber law Includes:

1. Cybercrimes
2. Electronic and Digital Signatures
3. Intellectual Property
4. Data protection and privacy

Importance of Cyber Law: Companies now be able to carry out electronic commerce using the legal infrastructure provided by the Act allows Government to issue notification on the web thus heralding e-governance Protect Computer fraud and Unauthorized access. Consumers are now increasingly using credit cards for shopping. Most people are using email, cell phones and SMS messages for communication as well as Deal with Internet Banking Transactions.




Backup and Restore

Backup and Restore (formerly Windows Backup and Restore Center) is a component of Microsoft Windows introduced in Windows Vista and included in later versions that allows users to create backups and restore from backups.



There are two different types of backup supported: File backup and system image.

1. File backups are saved to ZIP files. Two methods of file backup are supported: The first, normal backup, stores everything selected for backup. The second, incremental backup stores only files that are changed after a previous backup.
2. System image: The image-based full system backup option, called Complete PC Backup in Windows Vista or system image in Windows 7, allows for the imaging of the entire system including operating system and data volumes. The backed up image can later be restored through the Windows Recovery Environment either to the same computer or to a new computer of different brand and type.

To back up your files

1. Open Backup and Restore by clicking the Start button , clicking Control Panel, clicking System and Maintenance, and then clicking Backup and Restore.
2. Do one of the following:
 - If you've never used Windows Backup before, click Set up backup, and then follow the steps in the wizard. 
 - If you've created a backup before, you can wait for your regularly scheduled backup to occur, or you can manually create a new backup by clicking Back up now. 

Restore files from a backup

1. Open Backup and Restore by clicking the Start button , clicking Control Panel, clicking System and Maintenance, and then clicking Backup and Restore.
2. Do one of the following:
 - To restore your files, click Restore my files.
 - To restore the files of all users, click Restore all users' files.  If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

|| SUMMARY ||

1. A threat, in the context of computer security, refers to anything that has the potential to cause serious harm to a computer system.
2. Computer Virus are nothing but computer program that do unwanted things with your computer resources e.g. you are working on PC and you are repeatedly receiving annoying message.
3. Viruses are of many types like Email viruses, Trojan Horse, Worm, ILOVEYOU.
4. We can protect our system by Keeping The Operating System Updated, Use a Firewall, Anti-virus software is crucial to preventing virus attacks, but this strategy only works if users update their software.
5. A firewall is a system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software, or a combination of both.
6. Common Firewall techniques are Packet Filter, Application Gateway, Circuit-level Gateway, Circuit-level Gateway, and Proxy Server.

7. Any criminal act dealing with computers and networks (called hacking). Additionally, cybercrime also includes traditional crimes conducted through the Internet referred to as Cyber Crime.
8. Computer Ethics is set of moral principles that regulate the use of computers.
9. **A hacker** is a person intensely interested in the arcane and recondite workings of any computer operating system. Hackers are most often programmers.
10. **A cracker** is one who breaks into or otherwise violates the system integrity of remote machines with malicious intent.
11. Cyber means the use of Internet technologies and computers it includes computers, networks, software, data storage devices, Internet, websites, emails, ATM machines etc.
12. Backup and Restore (formerly Windows Backup and Restore Center) is a component of Microsoft Windows introduced in Windows Vista and included in later versions that allows users to create backups and restore from backups.
13. Two different types of backup supported: File backup and system image.

EXERCISES

A. Fill in the blanks:

- i. _____ has the potential to cause serious harm to a computer system.
- ii. A threat can be _____ and _____.
- iii. _____ Uses computer networks and security holes to replicate itself.
- iv. _____ program can erase your hard disk.
- v. Computer viruses were first widely seen in the late _____.
- vi. Crime conducted with internet called _____.
- vii. _____ is one who breaks into or otherwise violates the system integrity of remote machines with malicious intent.
- viii. File backup and System image are two _____ methods.

B. Find true or false:

- i. Computer viruses are nothing but computer program that do unwanted things.
- ii. A hacker is hacking software which access in sensitive information from your computer.
- iii. Backup and Restore is a component of Microsoft Windows.
- iv. Cyber means the use of internet technologies and computers.
- v. We shall use a computer to harm other people is one of the ethics of computer.

C. Short answer questions:

- i. What is threat in computer?
- ii. Give one difference between Trojan Horse and worms?
- iii. What is Firewall in windows?
- iv. List two ethics of computer?
- v. Give one difference between Hackers and Crackers?
- vi. Why we need Backup?
- vii. What are the types of Backup? Write name of each.
- viii. What do you mean by Restore? How it is helpful for you?

Lesson-2

Hyper Text Markup Language (HTML)

HTML:

HTML is the building block for web pages.

Prerequisites: You will need a text editor, such as Notepad and an Internet browser, such as Internet Explorer or Netscape.

What is an html File?

- i. HTML is a format that tells a computer how to display a web page.
- ii. An HTML file is a text file containing small markup tags
- iii. The markup tags tell the Web browser how to display the page
- iv. An HTML file must have an htm or html file extension

What are HTML tags?

- i. HTML tags are used to mark-up HTML elements.
- ii. HTML tags are surrounded by the two characters < and >.
- iii. HTML tags normally come in pairs like and .
- iv. The first tag in a pair is the start tag, the second tag is the end tag.
- v. HTML tags are not case sensitive, means the same as .

You will learn

- ✓ Heading (H1 to H6)
- ✓
, <hr>, <comment>
- ✓ Background Color, font tag(size, face, color)
- ✓ Text alignment (center, left, right)

Tag Description

<html> This tag marks the start of an html document

<head>...</head> This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.

<title> The <title>tag is used inside the <head> tag to mention the document title.

<body> This tag represents the document's body which keeps all the contents of a web page- text, images, sound etc.

<Hn> This tag represents the heading tags of different sizes.

Where n is the number start from 1...6

Like <H1>,<H2>.....<H6>

<center> This tag is used to write a line or text in center

<p> This tag represents a paragraph.

<p align=left/right/center> This tag is used to write paragraph alignment in html.

**
** This tag is used to insert new line or insert enter in html

Bold, Italics, Underline : tag is used to make a text bold in html.

<i>tag is used to make a text italics in html.

<u>tag is used to make a text underlined in html.

Background color and text color: `<body bgcolor = "yellow" >` tag is used to change the background color of an html page and `<body text="red">` changes text color.

How to create webpages?

1. click Start-> All Programs->Accessories. Open notepad and type the code given below

```
<html>
<head>
<title>My First Webpage
</title>
</head>
<body>
<center><h1> Webpage </h1></center>
This is my first homepage.
<b>This text is bold</b>
<i> This line is in italics text. </i>
<u> This line is in underline text. </u>
<br>This is the 1st line.
<br>This is the 2nd line.
</body>
</html>
```

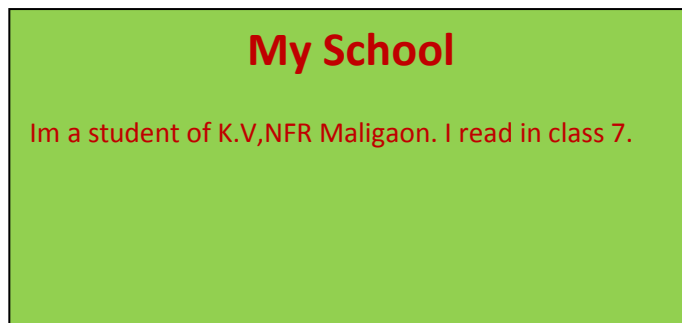
2. Click File, Click Save as

3. Type a Name of your webpage dot html.e.g.: -mypage.html

4. Open the Place where you saved your file. Double click on the file.

Assignment Question

Q. Write the code to create the following Webpage with background color 'green' and text color 'red'



```
<html>
```

```
<head>
```

```
<title>My Webpage
```

```
</title>
```

```
</head>
```

```
<body bgcolor ="yellow" text="red">
```

```
<center><h1> My School </h1></center>
```

```
<p align=left>Im a student of K.V,NFR Maligaon. I read in class 7. </p>
```

```
</body>
```

```
</html>
```

Q. Write an html code to show the working of various Paragraph alignment tags

```
<html>
```

```
<head>
```

```
<title>
```

```
Paragraph in html
```

```
</title>
```

```
</head>
```

```
<body>
```

```
This is an html document.
```

```
<p align=left>This is a left paragraph in html </p>
```

```
<p align=right>This is a right paragraph in html </p>
```

```
<p align=center>This is a center paragraph in html </p>
```

```
</body>
```

```
</html>
```

Inserting Images in Webpage:

We can insert images to our Html pages to make it look more beautiful. tag is used to insert images in webpage. There are two ways to insert images in a webpage:

1. Internal:

- Steps:**
1. Open My Pictures or Sample Pictures or any folder containing pictures Copy the picture you want
 2. Create a folder on the Desktop or in My Documents
 3. Open the Folder, and paste the Picture.
 4. Right click, and click new and click text document.

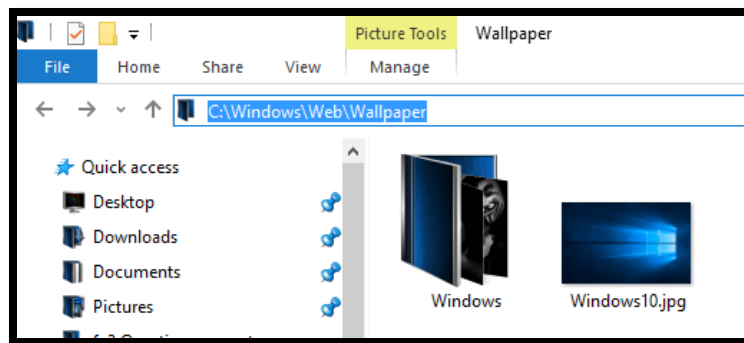
5. Open the text document and type the code given below.

```
<html>  
  
<head>  
  
<title>  
Webpage with Pictures  
</title>  
  
</head>  
  
<body bgcolor="yellow">  
  
<img src=Name of image.jpg>  
  
</body></html>
```

4. Save the file giving a name with dot html (mypage.html).

5. Open the webpage using browser

2. External: Here we type the location or address of the picture where it is, instead of simply writing the name of the picture.



Steps:

1. Open a text document and type the code given below.

```
<html>  
  
<head>
```

```
<title>
Webpage with Pictures
</title>
</head>
<body bgcolor="yellow">
<img src=c:\Windows\Web\Wallpaper\Name of image.jpg>
</body>
</html>
```

2. Save the file giving a name with dot html(myfile.html).

3. Open the webpage using browser

To insert images with adjusted height and width: We can change the width and height of the inserted image in our webpage by simply writing the 'width' and 'height' options inside the tag

```
<img src=Name of image.jpg width=50 height=50>
```

SUMMARY

1. HTML is a format that tells a computer how to display a web page; it is the building block for web pages.
2. HTML tags normally come in pairs like and .
3. **<html>** This tag marks the start of an html document
4. **<head>...</head>** This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
5. **<title>** The <title> tag is used inside the <head> tag to mention the document title.
6. **<body>** This tag represents the document's body which keeps all the contents of a web page- text, images, sound etc.
7. **<h1> ,<h2>,.....<h6>** This tag represents the heading tags of different sizes.

8. **<center>** This tag is used to write a line or text in center
9. **<p>** This tag represents a paragraph.
10. **** tag is used to insert images in webpage

EXERCISES

A. Fill in the blanks

- i. _____ is the building block of HTML
- ii. HTML document must have .html or _____ extensions.
- iii. _____ tag is used to write line or text in center.
- iv. _____ tag is used to set paragraph.
- v. To insert image _____ tag is used.

B. Find true or false

- i. HTML tags are case sensitive.
- ii. <h1><h2>.....<h6> tags represent heading tags of different size.
- iii. <p> tag is used to insert new line or insert enter in HTML.
- iv. tag is used to insert images in webpage.
- v. tag is used to make text italics.

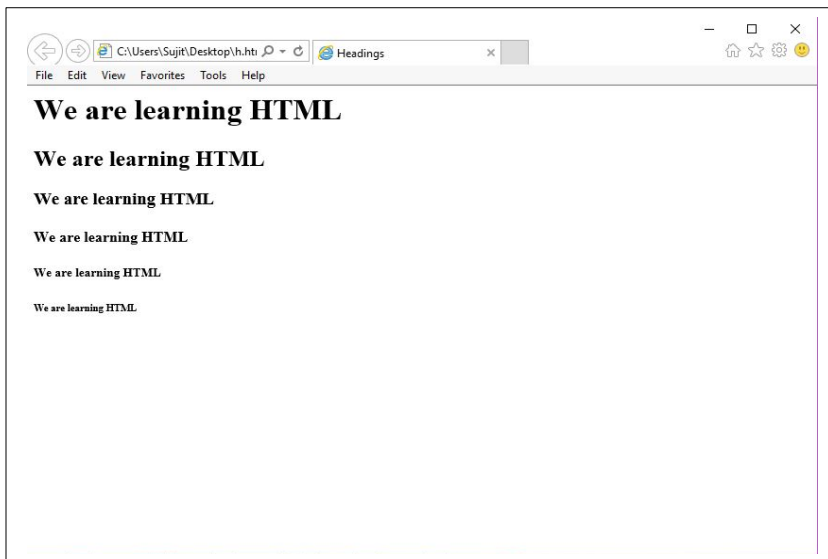
C. Short answer question

- i. What is HTML?
- ii. Name any two attributes used with the BODY tag.?
- iii. Write the HTML code to set the background color to yellow.?
- iv. How would you insert image in an Html document?
- v. What does the 'n' in the <Hn> tag indicate?

In the lab



1. Ankita has made the HTML document shown below, which displays headings in different Sizes. Write the HTML code for creating a similar document.



2. Anita wants to create simple Web page on Input devices. Help her by listing the steps required for creating the web page.

Lesson-3

HTML LISTS

Lists in HTML

1. **Unordered Lists** - An unordered list has no specific numbering or ordering. It starts with the tag. Each list item starts with the tag. Example: Create the following List in HTML

```
<html>
<head>
<title>
Unordered list
</title>
<head>
<body>
<h2><b>Unordered List with Bullets</b></h2>
<ul>
<li>Coffee</li>
<li>Tea</li>
<li>Milk</li>
</ul>
</body>
</html>
```

Unordered List with Bullets

I like to drink the following:

- Coffee
- Tea
- Milk

You will learn

- ✓ Paragraph formatting Tags
- ✓ List Tags
- ✓ Order (start and type attribute) and Un order List
- ✓ Background Image and other Image Insertion in Web Page with alignment
- ✓ Creation of table
- ✓ Anchor Tag
- ✓ Hyper Link

Unordered list styling- <ul style="list-style-type:circle"> OR <ul style="list-style-type:square">

11. **Ordered Lists** - An ordered list can be numerical or alphabetical in a specific order.

Example: Create the following List in HTML

```
<html>
<head>
<title>
Ordered list
</title>
</head>
<body>
<h2><b>Ordered List with Numbers</b></h2>
<ol>
<li>Coffee</li>
<li>Tea</li>
<li>Milk</li>
</ol>
</body>
</html>
```



Ordered list styling- To change the starting number from default 1 to any number we use the 'start' option.

To Change from numbers to alphabet or to roman numbers we use the 'type' option.

```
Example: <ol start="10" type="i" >
<li>Coffee</li>
<li>Milk</li>
```



TABLES IN HTML:

HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells. The HTML tables are created using the <table> tag in which the <tr> tag is used to create table rows and <td> tag is used to create data cells.

Example: Create the following List in HTML

Month	Saving
January	\$100
February	\$75

```
<html>
<head>
<title>
Table in html
</title>
</head>
<body>
<table>
  <tr>
    <td>Month</td>
    <td>Savings</td>
  </tr>
  <tr>
    <td>January</td>
```

```

                <td>$100</td>
            </tr>
        <tr>
            <td>February</td>
            <td>$75</td>
        </tr>
    </table>
</body>
</html>

```

1. **Table Border:** We add border option in <table> tag i.e. <table border="1">

2. **Bordercolor:** It specifies the color of the table's border.

Syntax: <table border=3 bordercolor=red>

3. **Cellspacing:** It is the space between cells.

4. **Cellpadding:** It is the distance between cell border and the cell contents.

STUDENT DETAIL

Name	Address	Marks
Manik	Rohini	89
Ravi	Pitampura	67
Sunny	Rohini	90
Rohan	Vikaspuri	78

Syntax: <table border=3 bordercolor=red cellspacing=10 cellpadding=10>

5. **Background:** It is used to give image in the background. This attribute takes URL of the file as its value.

Syntax: <table background="path">

6. **Bgcolor:** It is used to give colour in the background of the table.

Syntax: <table bgcolor="red">

7. **Height and Width:** These attributes are used to specify the height and width of the table in pixel

Syntax: <table height=200 width=300 >

ROWSPAN AND COLSPAN ATTRIBUTES OF TABLE TAG

Stretching a cell over multiple rows or columns is referred to as spanning. Two or more adjacent rows can be combined together to form a single row using the rowspan attribute. Two or more adjacent columns can be combined together to form a single column using the colspan attribute.

```

<html>

<Table border=1>

<caption> PRICE LIST</caption>

<tr><th colspan=2>Activity Name</th><th>Monthly Charges</th></tr>

<tr><td rowspan=2>INDOOR Activities</td><td>Indian Dance</td><td>Rs.
250</td></tr>

<tr><td>Dramatics</td><td>Rs. 350</td></tr>

<tr><td rowspan=2>OUTDOOR Activities</td><td>Skating</td><td>Rs.
150</td></tr>

<tr><td>Horse Riding</td><td>Rs. 400</td></tr>

</Table>

</html>

```

Output :-

PRICE LIST

Activity Name		Monthly Charges
INDOOR Activities	Indian Dance	Rs. 250
	Dramatics	Rs. 350
OUTDOOR Activities	Skating	Rs. 150
	Horse Riding	Rs. 400

Anchor Tag:

The 'a' or anchor tag. Hyperlinks, or links, are how you move around the web. An <a> or anchor tag is how you make hyperlinks in HTML. The 'a' or anchor tag is an elegantly simple and powerful tool.

There are two ways to insert hyperlinks in html:

1. Internal link –

Steps: 1. Open My Pictures or Sample Pictures or any folder containing pictures or songs or any file, Copy the file you want

2. Create a folder on the Desktop or in My Documents

3. Open the Folder, and paste the file.

4. Right click, and click new and click text document.

5. Open the text document and type the code given below.

```
<html>
```

```
<head>
```

```
<title>
```

```
Links in HTML
```

```
</title>
```

```
</head>
```

```
<body>
```

```
<p><a href=Name of the file. extension>Click here to download</a></p>
```

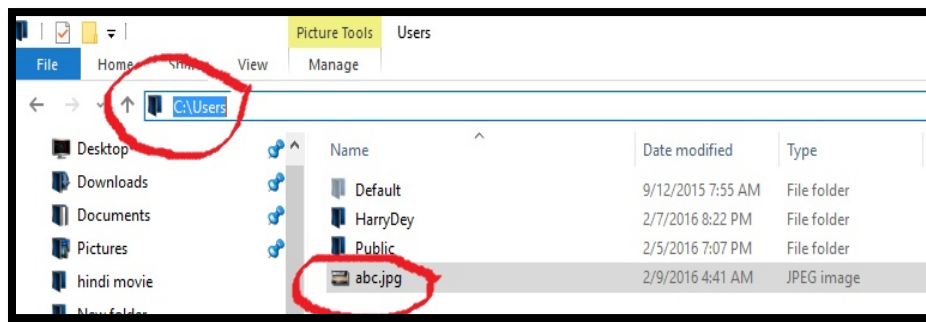
</body>

</html>

4. Save the file giving a name with dot html(my page.html).

5. Open the webpage using browser.

2. External: Here we type the location or address of the picture or file where it is, instead of simply writing the name of the picture.



Steps:

1. Open a text document and type the code given below.

<html>

<head>

<title>

Webpage with Pictures

</title>

</head>

<body >

<p>Click here to download</p>

```
</body>
```

```
</html>
```

4. Save the file giving a name with dot html(myfile.html).

5. Open the webpage using browser

To open webpages using hyperlinks: We can open different webpages by simply clicking on a hyperlink by providing the address of the webpage using `<a>` tag

```
<a href="http://www.yahoo.com">Visit Yahoo</a>
```

To change HTML Link Color: We can change the color of the hyperlinks by using the following options in the `<body>` tag.

`link="color"` For the a page that hasn't been visited yet

`vlink="color"` For the visited link color

`alink="color"` For the active link color

```
<body link="blue" alink="blue" vlink="red">
```

SUMMARY

1. Each list item starts with the `` tag.
2. In HTML List are of three types Ordered list, Unordered list, Definition list.
3. An ordered list can be numerical or alphabetical in a specific order.
4. An unordered list has no specific numbering or ordering. It starts with the `` tag.
5. HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells.
6. HTML tables are created using the `<table>` tag.
7. In HTML `<tr>` tag is used to create table rows and `<td>` tag is used to create data cells.
8. Cellspacing is the space between the cells.
9. Cellpadding is the distance between cell border and the cell contents.
10. Stretching a cell over multiple rows or columns is referred to as spanning.

11. Two or more adjacent rows can be combined together to form a single row using the rowspan attribute.
12. Two or more adjacent columns can be combined together to form a single columns using the colspan attribute.
13. An <a> or anchor tag is how you make hyperlinks in HTML.
14. There are two ways two insert hyperlinks in html : Internal Link, External Link.

EXERCISES

A. Fill in the blanks

- i. _____list can be numerical or alphabetical in a specific order.
- ii. Each list item should start with_____tag.
- iii. We can create table in HTML by using_____tag.
- iv. _____tag is used to create table row whereas _____tag is used to create Data cells.
- v. Space between the cells is_____.
- vi. _____is the distance between the cell border and the cell content.

B. Find true or false

- i. We use Table border to change the color of border.
- ii. Background is to give image in the background.
- iii. here 'A' stands for anchor tag.
- iv. HREF attribute is used to set URL of the page.
- v. <TD> tag is used to create table row.

C. Short Answer Questions

- i. What is List in HTML?
- ii. What are the types of List in HTML?
- iii. Give one difference between Ordered list with Unordered list.?
- iv. What is cellpadding?

- v. Give one difference between rowspan with colspan.?
- vi. What is cellspacing?
- vii. What is the use of <A> tag in HTML? Give syntax.
- viii. List four attributes of <A> tag.
- ix. What are the types of Hyperlink?
- x. Identify the error in code given below:

```
 in HTML , You are free to use colors of your own choice.
3. Anita is trying to create two web pages computer.html and definition.html where computer.html is the name and are linked to definition.html. She wants that a click on name and it should

display the web page definition.html. Try this assignment to yourself to see whether you get output correctly.

## Lesson-4

# Photoshop Introduction

### Desktop publishing

Desktop publishing (DTP) is the creation of documents using page layout skills on a personal computer. Desktop publishing software can generate layouts and produce typographic quality text and images comparable to traditional typography and printing. This technology allows individuals, businesses, and other organizations to self-publish a wide range of printed matter.

DTP skills and software used for common paper and book publishing are sometimes used to create graphics for point of sale displays, promotional items, trade show exhibits, retail package designs and outdoor signs.

#### You will learn

- ✓ DTP and its softwares
- ✓ Starting Photoshop
- ✓ Tool Palette
- ✓ How to create a new file
- ✓ How to save a file
- ✓ How to open an Existing file
- ✓ How to use Photoshop tools

#### Using Layers

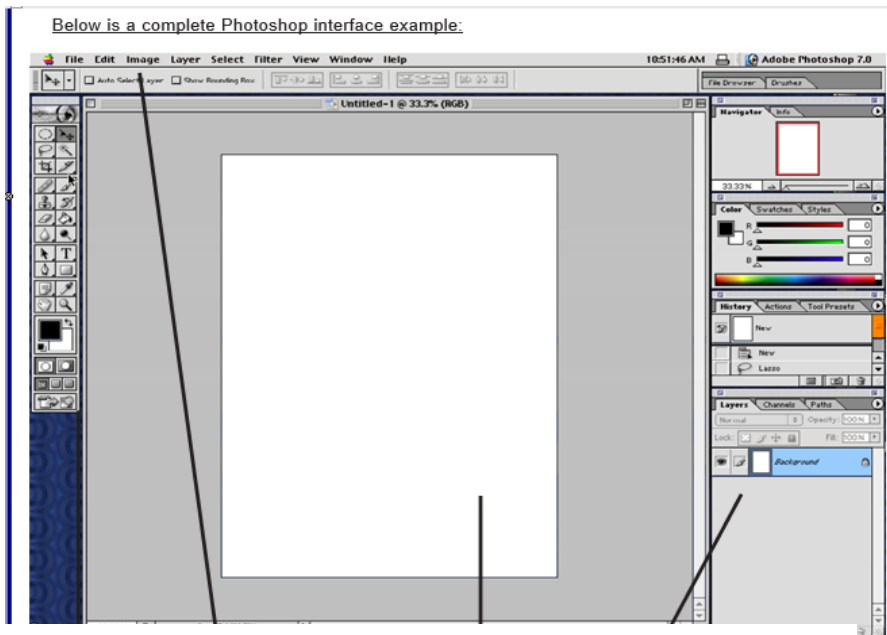
- ✓ Learning Layer Basics
- ✓ Using Layers palette
- ✓ Rearranging Layers
- ✓ Applying a Layer Style
- ✓ Flattening and saving files

**DTP applications** - List of desktop publishing software.

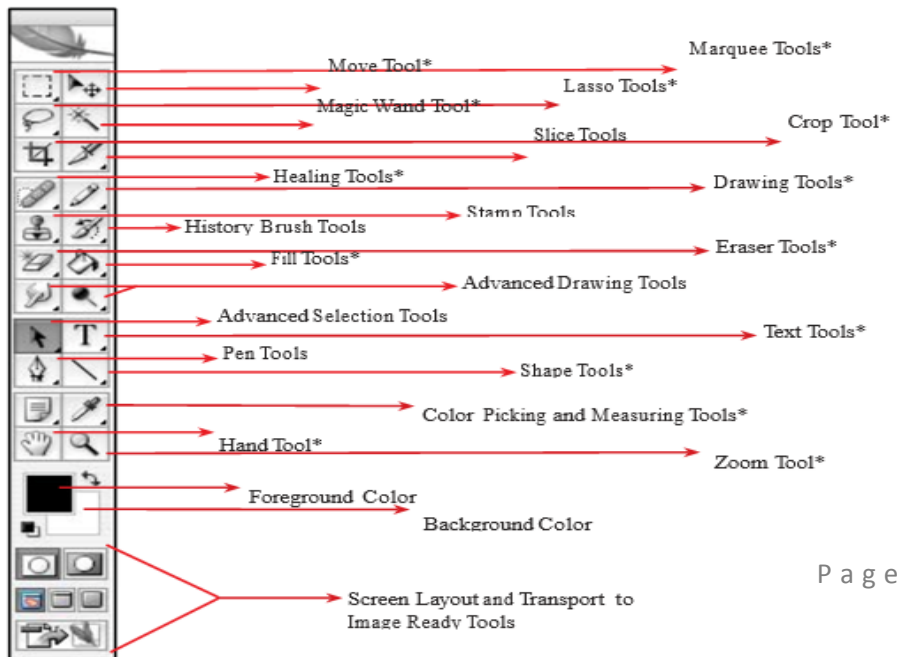
Adobe Frame Maker, Adobe Home Publisher, Adobe Illustrator, Adobe InDesign, Adobe PageMaker  
 Adobe Photoshop, CorelDraw, Microsoft PowerPoint

**PHOTOSHOP**

An image editing software developed and manufactured by Adobe Systems Inc. Photoshop is considered one of the leaders in photo editing software. The software allows users to manipulate, crop, resize, and correct color on digital photos. The software is particularly popular amongst professional photographers and graphic designers.



**Tool Palette:**



**CREATING A NEW DOCUMENT:** To create a new document you choose Menu >File >New. This opens a window that requires some input:

- Size...We will use 8 inches by 11 inches
- Background...We will use white.
- Resolution...We will use 150.

NOTE: Resolution specs

Web Resolution = 72

Print resolution = 150 or 300

Film Resolution = 600

### Steps:

1. Menu > File > New
2. Put in a Size ( 8 inch by 11 inch)
3. Background is White
4. Resolution is 150 this time.

## SAVE DOCUMENT AND THE FORMAT

### Formats:

1. **.PSD** This is the Photoshop format and it preserves layers.



2. **.JPG** This is for the web and is used for graphics on the web.
3. **.GIF** This is also for the web but is best for text.
4. **.TFF** A great cross platform format that preserves all quality for printing.
5. **.PCT** Another good format for print and cross platform.

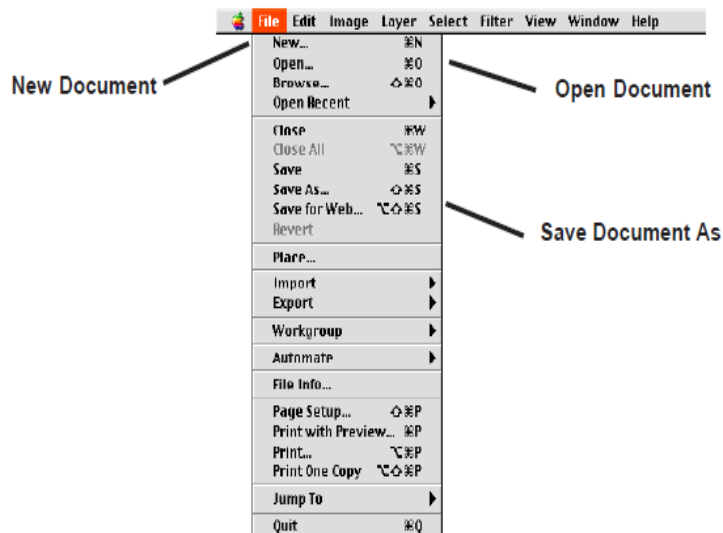
**Steps:**

1. Open Photoshop
2. Click File >Open navigate to document, click once on it, click OK.
3. Next let us perform some editing on the image or document
4. Next save it as Work.jpg on the desktop or any other folder
5. Click> File > Save As Change name, navigate to desired save location, Click OK

**OPENING A FILE:** Opening a file is easy, just do Menu > File > Open...Navigate to the file and highlight it, then click OK.

**Steps:**

1. Open Photoshop
2. click File > Open >navigate to document, click once on it



**How to use Photoshop tools**

**Solarize an image**

1. Open an image on your canvas click File>Open and browse the image you want to open.
2. Click on Filter>Stylize>Solarize.
3. Click on OK

### **Painting Effect**

1. Open an image
2. Click on Filter>Brush Stroke>Spatter. Give the values as follows: Spatter, Spray Radius - 10, Smoothness - 5.
3. Next, click on Filter>Blur>Blur.
4. Click on OK and here is your result.

### **Cross-Stitch Effect**

1. Open a new file.
2. Go to Filter>Texture>Patchwork. A new window opens; give the values Square Size - 5 and Relief - 6.
3. Click on OK and here is your result.

### **REDUCING AN IMAGE SIZE**

1. Open an image on your canvas by clicking on File>Open and browse for the image you want to open.
2. click image, click image size-width 2cm, height 2cm (as given in online instruction)
3. click file save as, click save, enter the quality value to reduce the size
4. Save the photo.

### **Creating Photo Collage**

1. Step 1. Open the image that will be your background or use any texture in Photoshop  
Note: To use texture: click file->new, then click layer->new fill layer.
2. Step 2. Click File, click Place and select the image

3. Step 3. Resize the Image and move it position, right click and select place.
4. Step 4. Click File, click Place and select another image...Repeat step 3.
5. Step 5. Click layer->layer style, then click stroke or outer glow. To make it look attractive

# Layers

## Learning Layer Basics

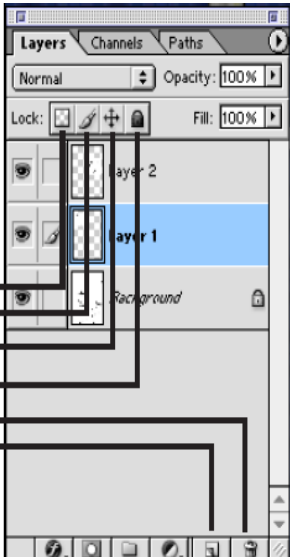
One of the most useful features of applications like Photoshop is the ability to work with layers. Layers allow you to have several pieces of images in the same file, which can be arranged on top of each other to create a complete image.

## Using Layers palette

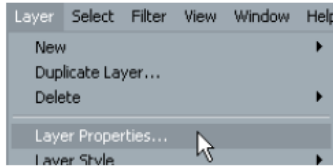
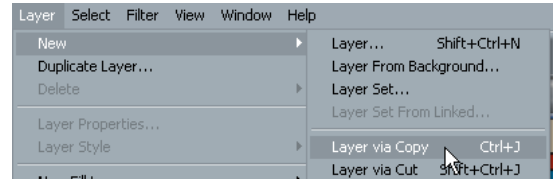
On the layer palette, there are several useful features. One is the **locking** features. At the top of the layer palette, notice several boxes with icons. Checking the boxes will lock features of layers on the active document.

- ◆ Preserves transparency
- ◆ Paint; prevents painting or drawing
- ◆ Position; prevent moving things
- ◆ Locks All; makes editing impossible
- ◆ Trashes a new layer
- ◆ Creates a new layer

These features make editing easier and prevent common mistakes.

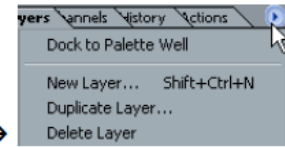


**Creating new Layers:** From the Layers menu select New and then Layer



← Layer menu

Layer Palette menu →



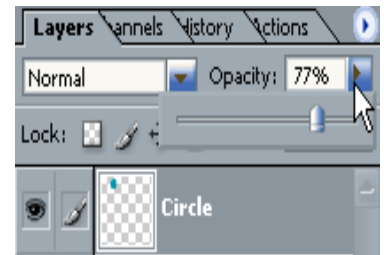
**Rearranging Layers:** The stacking order is determined by the order in the layer's palette. In the



layer's palette, drag the circle layer so that it is above the rectangle layer.

### Blending Layers/Layer Style

Once you have an image with more than one layer, the layers can be blended together in a variety of ways. One way is to use modes. By default, a layer will block out any sections of layers that it covers. Blending modes allow you to combine layers in a variety of ways. Another way is to use layer transparency settings to simply make a layer partially transparent. A layer mask can also be used to hide parts of a layer a bit more selectively.



Select the Circle layer. Locate the Opacity option on the layer's palette. To use this option, you can either click the arrow and drag the slider or you can enter amounts in the box. Higher amounts mean the layer will be more opaque. Lower amounts mean the layer will be more transparent.

### Flattening and saving files

When you finish editing all the layers in your image, you can merge or flatten layers to reduce the file size. Flattening combines all the layers into a single background layer. However, you cannot edit layers once you've flattened them, so you shouldn't flatten an image until you are certain that you're

satisfied with all your design decisions. Rather than flattening your original PSD files, it's a good idea to save a copy of the file with its layers intact, in case you need to edit a layer later.

NOTE: If the sizes do not appear in the status bar, click the status bar pop-up menu arrow, and choose Show > Document Sizes.

## || SUMMARY ||

1. Desktop publishing (DTP) is the creation of documents using page layout skills on a personal computer.
2. Adobe Frame Maker, Adobe Home Publisher, Adobe Illustrator, Adobe InDesign, Adobe PageMaker and Adobe Photoshop these all are DTP applications.
3. An image editing software developed and manufactured by Adobe Systems Inc. Photoshop is considered one of the leaders in photo editing software.
4. .PSD, .JPG, .GIF, .TFF,.PCT these all are different Photoshop formats.
5. Layers allow you to have several pieces of images in the same file, which can be arranged on top of each other to create a complete image.

## || EXERCISES ||

### A. Fill in the blanks

- i. DTP means\_\_\_\_\_
- ii. Corel Draw is an example of\_\_\_\_\_.
- iii. Photoshop support\_\_\_\_\_formats.
- iv. \_\_\_\_\_allows you to have several pieces of images in the same file.
- v. \_\_\_\_\_is for the web but is best for text.

### B. Find true or false

- i. DTP allows you to have several pieces of images in the same file.
- ii. .TFF format is good format for print and cross platform.
- iii. Photoshop is considered one of the leaders in photo editing software.
- iv. By default, a layer blocks out any sections of layers that it covers.

C. Short Answer Question:

- i. What are layers?
- ii. What do you mean by DTP?
- iii. Give two example of DTP applications.?
- iv. What are the Photoshop formats?

In the lab



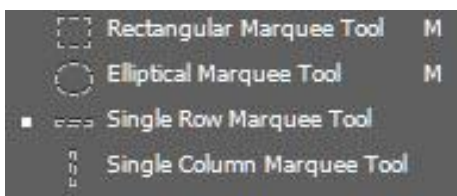
1. Sunita wants to reduce the image size in Photoshop but she could not achieve it. Can you help her to?
2. Create Photo Collage of your friends using Photoshop.

## Lesson-5

# Photoshop (Continued)

### Rectangular Marquee Tool

The rectangular marquee tool counts among the most often tools in Photoshop. Whether it's making a selection, cropping out an image, or adding a color fill, you'll frequently find yourself turning to the marquee tool. The marquee tool itself offers four options:



**Rectangular marquee tool:** Used to create rectangular/square selections

**Single column marquee tool:** Creates a 1-pixel wide selection that spans the height of the image

**Single row marquee tool:** Creates a 1-pixel high selection that spans the width of the image

**Elliptical marquee tool:** Used to create elliptical/circular

#### You will learn

##### Rectangular Marquee

- ✓ Elliptical Marquee
- ✓ Single column Marquee
- ✓ Single Row Marquee

##### Lasso

- ✓ Polygonal Lasso
- ✓ Magnetic Lasso
- ✓ Quick Selection
- ✓ Magic Wand

##### Crop and Slice tools

- ✓ Crop
- ✓ slice
- ✓ Slice Select

##### Measuring tools

- ✓ Eyedropper
- ✓ color Sampler
- ✓ Ruler
- ✓ Note
- ✓ Count

##### Retouching tools

- ✓ Spot Healing Brush
- ✓ Healing Brush
- ✓ Patch
- ✓ Red Eye
- ✓ Magic Eraser
- ✓ Blur
- ✓ Sharpen
- ✓ Smudge
- ✓ Dodge
- ✓ Burn

##### Sponge

selections

## Practical use of some Tools

### Rectangular Marquee Tool

1. Start by opening any image in Photoshop
2. Select the rectangular marquee tool. It will be the second icon from the top in the toolbox on the left.
3. If you click and hold on this icon, you should be able to see the rest of the three selection options (elliptical, single row and single column).
4. With the rectangular marquee tool selected, click and drag a box around any part of the image (in this case, the otter's head).
5. The blinking black and white lines indicate that a selection has been made.

We can now modify this selection as per our requirements.

6. If you hit ENTER, Photoshop will crop out the rest of the image.

### Lasso Tool :

The lasso tool creates a custom, free-hand selection. It is usually used to cut out, or select specific sections of a pre-existing picture. Access the lasso tool by clicking on the icon located on the tool bar, or press the keyboard shortcut

### Polygonal Lasso

The Polygonal Lasso tool is handy for selecting objects with many angles because it draws only straight lines; you simply click when you want to change directions.



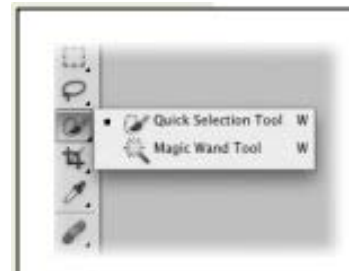


## Magnetic Lasso

Magnetic Lasso Tool is an **edge detection tool**, meaning that it actively searches for the edge of the object as you are moving around it, then snaps the selection outline to the edge and clings to it like a magnet!

## Quick Selection

The Quick Selection Tool is somewhat similar to the Magic Wand in that it also selects pixels based on tone and color. However, the Quick Selection Tool goes far beyond the Magic Wand's limited abilities by also looking for similar textures in the image, which makes it great at detecting the edges of objects. And unlike the Magic Wand where we click on an area and hope for the best, the Quick Selection Tool works more like a brush, allowing us to select areas simply by "painting" over them



## Magic Wand

The Magic Wand tool (W) also creates selections based on color (its icon looks like a wizard's wand). Click once on the color, you want to select and Photoshop grabs all the contiguous pixels that are similarly colored



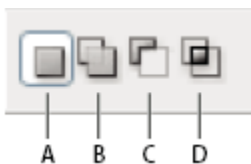
# Practical use of some Tools

## Magic Wand tool

1. Choose the Magic Wand tool
2. On the Options bar:
  - Choose a Tolerance value (use the scrubby slider) to control the range of colors the tool selects (for a starting value, try between 30 and 40).
  - Check Anti-alias to allow the tool to add semitransparent pixels along the edges of the color areas it detects. This will produce smoother edge transitions for your image edits.
  - Check Contiguous to limit the selection to areas that are connected to the first pixel you click, or uncheck this option to allow the tool to select similarly colored, noncontiguous (unconnected) areas throughout the image with the same click.
  - To select possible occurrences of a similar color on all visible layers, check Sample All Layers, or uncheck this option to select colors on just the current layer.
3. Click a color in the image.

## Magnetic Lasso tool

1. Select the Magnetic Lasso tool.
2. Specify one of the selection options in the options bar.



Selection options

**A.** New **B.** Add To **C.** Subtract From **D.** Intersect With

3. (Optional) Set feathering and anti-aliasing in the options bar.
4. Set any of these options:

### Width

To specify a detection width, enter a pixel value for Width

### Contrast

To specify the lasso's sensitivity to edges in the image, enter a value between 1% and 100% for Contrast

### Frequency

To specify the rate at which the lasso sets fastening points, enter a value between 0 and 100 for Frequency.

### Stylus Pressure

If you are working with a stylus tablet, select or deselect the Stylus Pressure option. When the option is selected, an increase in stylus pressure decreases the edge width.

5. Click in the image to set the first fastening point. Fastening points anchor the selection border in place.
6. Release the mouse button or keep it pressed, and then move the pointer along the edge you want to trace.
7. When your starting and ending points the portion will be selected

## Crop and Slice tools

### Crop

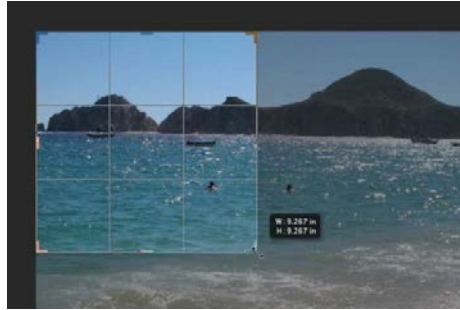
The Crop tool (C) lets you trim distracting elements from the edges of your image, as well as change the size of your image. Simply use it to draw a box around the part of the image you want to keep and then press Enter to delete everything outside the box.

### slice

The Slice tool allows you to divide an image into smaller sections, which fit together like a jigsaw (but with straight edges). There are two tools: Slice (which creates the slices) and Slice Select (which enables you to select and modify existing slices).

### Slice Select

Select your image slices and adjust the size of the slices by moving the handles. Hold down the Shift key to select multiple slices at once.




## Practical use of some Tools

### Photoshop Slice Tool

1. Select the slice tool in the toolbox.
2. Click and drag over the area you wish to make into a slice.
3. Release the mouse button –
4. Using the slice select tool, you can move and resize slices by dragging inside a slice, or by dragging the handles.
5. Click File > Save for Web from the Photoshop menu. When you save the file, you will have the option to save the images and/or a new HTML page to contain the images.

### Crop a photo

1. From the toolbar, select the Crop Tool .
2. Draw a new cropping area or drag the corner and edge handles to specify the crop boundaries in your photo.
3. (Optional) Specify the Crop options using the Control bar.



A. Aspect Ratio Menu B. Swap Width and Height Values C. Overlay Options

### Size and proportions

Choose a ratio or size for the crop box. You can also choose a preset, enter your own, or even define your own preset values for later use.

### Overlay Options

Choose a view to display overlay guides while cropping. Guides such as Rule of Thirds, Grid, and Golden Ratio are available.

4. Press Enter (Windows) or Return (Mac OS) to crop the photo.

## Measuring tools

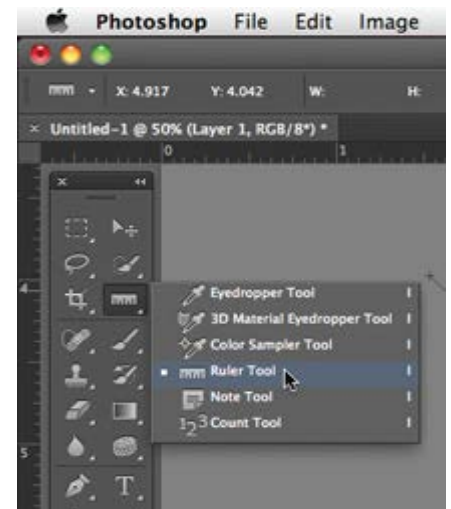
### Eyedropper

The Eyedropper tool samples color to designate a new foreground or background color. You can sample from the active image or from anywhere else on the screen.

### color Sampler

Color Sampler Tool allows you to view color values in defined spots of your image:

1. In the Toolbox, select the Color Sampler Tool.
2. Click on the image where you want to set the first sampler.
3. You can set up to 4 color samplers on your image.
4. In the Options bar, you can change sample size (sampler's range).
5. You can move samplers with Color Sampler Tool to any other spot to read color values from.



### Ruler

The Ruler tool helps you position images or elements precisely. The Ruler tool calculates the distance between any two points in the workspace. When you measure from one point to another, a nonprinting line is drawn,

The options bar and Info panel show the following information:

- The starting location (X and Y)
- The horizontal (W) and vertical (H) distances traveled from the x and y axes
- The angle measured relative to the axis (A)
- The total length traveled (D1)
- The two lengths traveled (D1 and D2), when you use a protractor

### Note

Like post-it notes, but digital. You can use this tool to add small little note boxes to your image.

### Count

The Count tool is used to count objects in an image. To count objects manually, you click the image with the Count tool and Photoshop tracks the number of clicks. The count number is displayed on the item and in the Count tool options bar. Count numbers are saved when you save a file.

Photoshop can also automatically count multiple selected areas in an image, and record the results in the Measurement Log panel.

## Practical use of some Tools

### Eyedropper tool

1. Select the Eyedropper tool.
2. In the options bar, change the sample size of the eyedropper
3. Selecting a foreground color with the Eyedropper tool

Choose one of the following from the Sample menu:

- All Layers: Samples color from all layers in the document.
- Current Layer: Samples color from the currently active layer.

4. Do one of the following:
  - a. To select a new foreground color, click in the image.
  - b. To select a new background color, Alt-click (Windows) in the image. Or position the pointer over the image, press Alt-click (Windows) press the mouse button, and drag anywhere on the screen.

### Color Sampler Tool

1. In the Toolbox, select the Color Sampler Tool.
2. Click on the image where you want to set the first sampler.
3. You can set up to 4 color samplers on your image.
4. In the Options bar, you can change sample size (sampler's range).
5. You can move samplers with Color Sampler Tool to any other spot to read color values from.

### Ruler tool

Measure between two points

1. Select the Ruler tool. (If the Ruler is not visible, hold down the Eyedropper tool.)
2. Drag from the starting point to the ending point. Hold down the Shift key to constrain the tool to 45° increments.
3. To create a protractor from an existing measuring line, Alt-drag (Windows) at an angle from one end of the measuring line, or double-click the line and drag. Hold down the Shift key to constrain the tool to multiples of 45°.

## Retouching tools:

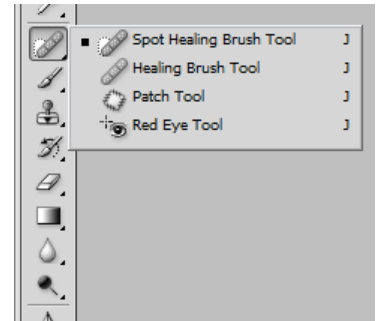
### Spot Healing Brush

The spot healing brush can be used to clone areas from an image and blend the pixels from the sampled area seamlessly with the target area. The basic principle is that the texture from the sample area is blended with the color and luminosity surrounding wherever you paint.

The main difference between this and the standard healing brush is that the spot healing brush requires no source point. You simply click on the blemishes you want to get rid of and the spot healing brush works out the rest for you.

## Healing Brush

The healing brush lets you sample part of the photograph and use it to paint over another part. Once you're finished, Photoshop will examine surrounding areas and try to blend what you painted in with the rest of the picture.



## Patch

The patch tool uses the same complex algorithm as the healing brush to carry out its blend calculations, but the patch tool works with selection-defined areas instead of a brush. When the patch tool is selected, it initially operates in a lasso selection mode that can be used to define the area to patch from or patch to

The Patch Tool retouches image using sampled pixels or pattern. It works as a combination of the Healing Brush with the Lasso Tool

## Red Eye

The undesirable effect in flash photography of people appearing to have red eyes, caused by a reflection from the retina when the flashgun is too near the camera lens.

## Magic Eraser

When you click in a layer with the Magic Eraser tool, the tool changes all similar pixels to transparent. If you are working in a layer with locked transparency, the pixels change to the background color. If you click in the background, it is converted to a layer and all similar pixels change to transparent.

## Blur

When you click on the blur tool your cursor turns into a circle and it acts as a paint brush. You just paint over the part of the image you wish to blur. You can adjust the size of the brush and the hardness (how much blur you want) at the top of your screen.

## Sharpen

Sharpening enhances the definition of edges in an image. Whether your images come from a digital camera or a scanner, most images can benefit from sharpening.

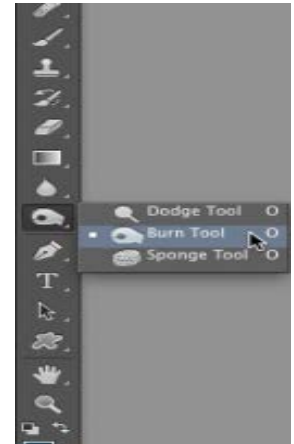


## Smudge

The smudge tool is an interesting painting tool to work with because it can be used to smear pixels the same way as one might mix paints together. The smudge tool basically smears the pixels (rather than distort them the way the Liquefy filter does) and for best results.

## Dodge

The Dodge tool lightens areas of the image. This tool is based on a traditional darkroom technique for regulating exposure on specific areas of a print. Photographers hold back light to lighten an area on the print (dodging).



## Burn

The Burn tool darkens areas of the image. This tool is based on a traditional darkroom technique for regulating exposure on specific areas of a print. Photographers hold back light to increase the exposure to darken areas on a print (burning).

## Sponge

The Sponge tool on an image in suitable ways to reduce the saturation in selected areas for an interesting effect. The Sponge tool lets you reduce the color saturation of that area to allow the other sections of your image to come to the forefront.

## SUMMARY

1. Rectangular marquee tool used to create rectangular/square selections.
2. Single column marquee tool creates a 1-pixel wide selection that spans the height of the image
3. Single row marquee tool creates a 1-pixel high selection that spans the width of the image

4. Elliptical marquee tool used to create elliptical/circular selections
5. The lasso tool creates a custom, free-hand selection. It is usually used to cut out, or select specific sections of a pre-existing picture.
6. The Polygonal Lasso tool is handy for selecting objects with many angles because it draws only straight lines.
7. Magnetic Lasso Tool is an **edge detection tool**, meaning that it actively searches for the edge of the object as you are moving around it.
8. The Crop tool (C) lets you trim distracting elements from the edges of your image, as well as change the size of your image.
9. The Slice tool allows you to divide an image into smaller sections, which fit together like a jigsaw (but with straight edges).
10. The Eyedropper tool samples color to designate a new foreground or background color.
11. The Ruler tool helps you position images or elements precisely. The Ruler tool calculates the distance between any two points in the workspace.
12. The Dodge tool lightens areas of the image. This tool is based on a traditional darkroom technique for regulating exposure on specific areas of a print.
13. The Burn tool darkens areas of the image. This tool is based on a traditional darkroom technique for regulating exposure on specific areas of a print.
14. The Sponge tool on an image in suitable ways to reduce the saturation in selected areas for an interesting effect.

## EXERCISES

### A. Fill in the blanks

1. \_\_\_\_\_ Marquee tool uses to create elliptical/circular selection.
2. \_\_\_\_\_ tool is an edge detection tool.
3. Single row marquee tool creates \_\_\_\_\_ high selection that spans the width of the image.
4. \_\_\_\_\_ tool lets you trim distracting element from the edges of your image.
5. \_\_\_\_\_ tool help you position images or elements precisely.
6. This tool darkens areas of the image \_\_\_\_\_.
7. When you click on \_\_\_\_\_ your cursor turns into a circle and it acts as

Paint brush.

B. Find true or false

- i. Sharpen enhances the definition of edge in an image.
- ii. Patch tool uses the same complex algorithm as the red eye.
- iii. Count tool is used to count the objects in an image.
- iv. To specify Detection width we enter a % value for width.
- v. Quick selection tool is similar to magic wand tool.

C. Short Answer Questions.

- i. Write the names of marquee tool present in photoshop.
- ii. Write the use of Lasso tool.?
- iii. What is magic wand in Photoshop?
- iv. Give one difference between crop and slice tool.?
- v. What is Red Eye in Photoshop?
- vi. Write the uses of Eyedropper in Photoshop.?
- vii. What is the use of Dodge tool in Photoshop?
- viii. Give one difference between Dodge tool and Burn tool.?
- ix. What is sponge tool?
- x. What is patch in Photoshop?

In the lab



1. Using Rectangular marquee tool crop out an image in Photoshop and save it with .jpg extension.
2. Using Eyedropper tool change the foreground/background color of an image in Photoshop.

3. Change the color of an object using Magic wand tool.

## Lesson-6

# Painting Tools in Photoshop

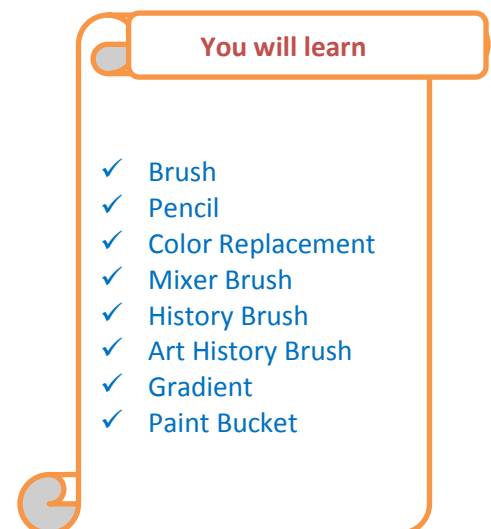
## Painting Tools

Adobe Photoshop provides several tools for painting and editing image color. The Brush tool and the Pencil tool work like traditional drawing tools applying color with brush strokes. Tools like the Eraser tool, Blur tool, and Smudge tool modify the existing colors in the image. In the options bar for each of these painting tools, you can set how color is applied to an image and choose from preset brush tips.

You can save a set of brush options as a preset so you can quickly access brush characteristics you use frequently. Photoshop includes several sample brush presets. You can start with these presets and modify them to produce new effects. Many original brush presets are available for download on the web.

### Healing Brush tool

1. Select the Healing Brush tool in the Tools panel (it's a hidden tool of the Spot Healing Brush tool).



2. Find an area in the image that looks good and then Alt-click (Windows) or Option-click (Mac) to sample that area.

For example, if you want to eliminate wrinkles on a face, choose a wrinkle-free area of skin near the wrinkle. (Try to choose an area relatively close in skin tone.)

Position the mouse cursor over the area to be repaired and start painting.




The Healing Brush tool goes into action, blending and softening to create a realistic repair of the area.

3. Repeat Steps 2 and 3 as necessary to repair the blemish, wrinkles, or scratches.


### Patch Tool

There are 2 methods to retouch using sampled pixels.

#### Method 1:

1. In the Toolbox, select the Patch  Tool.
2. Drag in (select) a damaged area with the Patch  Tool(exactly like with Lasso  Tool)
3. On the Options bar, choose the Source mode.
4. Drag the selection (cursor inside the selection) onto a repair-source area (movie).

#### Method 2:

5. Drag in a repair-source area with the Patch  Tool\*.
6. On the Options bar, choose the Destination mode.
7. Drag the selection (cursor inside of selection) onto a damaged area (movie).

### Red eye Removal tool

1. Open up a picture in Photoshop.
2. Click and hold the bandage icon on the left side of the screen. Select the option Red Eye Tool that slides out as an extra feature.
3. Select the area you want to correct with the Photoshop Red Eye Tool.
4. Release the area that you selected. The program will cover the pupil with a darker color.
5. Do the same for the other eye.



## Magic Eraser tool


1. Select the Magic Eraser tool.
2. Do the following in the options bar:
3. Enter a tolerance value to define the range of colors that can be erased. Select Anti-aliased to smooth the edges of the area you erase.
4. Select Contiguous to erase only pixels contiguous to the one you click, or deselect to erase all similar pixels in the image.
5. Select Sample All Layers to sample the erased color using combined data from all visible layers.
6. Specify an opacity to define the strength of the erasure. An opacity of 100% erases pixels completely.
7. Click in the part of the layer you want to erase.

## Blur Tool

1. In the Toolbox, select the Blur Tool.
2. Choose brush size and style.
3. Set the tool's strength.
4. Drag on the image.
5. In the Options bar, you can also specify the effect's "Mode".

## Dodge tool or Burn tool

1. Select the Dodge tool  or the Burn tool .
2. Choose a brush tip and set brush options in the options bar.
3. In the options bar, select one of the following from the Range menu:
  - **Midtones** Changes the middle range of grays
  - **Shadows** Changes the dark areas
  - **Highlights** Changes the light areas
4. Specify the exposure for the Dodge tool or the Burn tool.

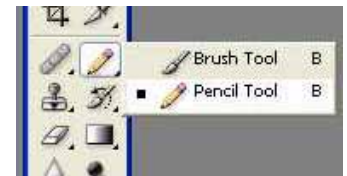
5. Click the airbrush button  to use the brush as an airbrush. Alternatively, select the Airbrush option in the Brush panel.
6. Select the Protect Tones option to minimize clipping in the shadows and highlights. This option also tries to keep colors from shifting hue.
7. Drag over the part of the image you want to lighten or darken.

## Brush

The Brush tool is a basic painting tool. It works like a traditional drawing tool by applying the color using strokes. It's located in the standard Tool Bar and its default shortcut is the letter B.

## Pencil

The pencil tool is nothing more than a rip off from the brush tool. In fact, all it really consists of is a 1-pixel brush tool tip. Nearly all the same options and tools are available to the Pencil tool as are available with the brush tool.



## Color Replacement

It enables us to change the color of an object in a photo without a lot of fuss or hassle. The Color Replacement Tool is not the most professional way to change colors in an image and will not always give you the results you need, but it usually works well for simple tasks and it is such an easy tool to use

## Mixer Brush

The Mixer Brush creates realistic painting techniques such as mixing colors on the canvas, combining colors on a brush, and varying paint wetness across a stroke.

The Mixer Brush has two paint wells, a reservoir and a pickup. The reservoir stores the final color deposited onto the canvas and has more paint capacity. The pickup well receives paint only from the canvas; its contents are continuously mixed with canvas colors.

## History Brush

The History Brush tool used to apply an image area from a different state or snapshot to your current state. Use this tool to restore a portion of an image to an earlier state, while leaving the

rest of the modified image alone. The History Brush has an advantage over the Eraser tool because the History Brush allows access to many blend modes.

## Art History Brush

The Art History Brush tool is an interesting variation on the plain old History Brush tool. Both tools paint over an image by using information from a previous state.

The Art History Brush tool, however, includes several choices on the Options bar that let you apply brush-stroke effects to your image when you paint:

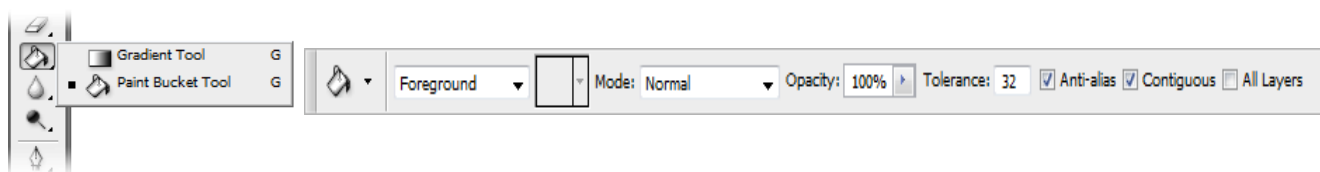
- **Style:** The Style menu contains various-shaped brush stroke styles, such as Tight Short, Loose Medium, Dab, or Loose Curl.
- **Area:** This option controls the area that the paint stroke covers, independent of the brush size you select. The larger the brush size, the more area it covers.
- **Tolerance:** This option adjusts the amount of the change applied to your image. A low tolerance value lets you apply strokes anywhere in the image, regardless of color values. A high tolerance value limits Art History strokes to areas that are very different from the source state or snapshot, making your image less dramatically different from the original.

## Gradient

The Gradient tool creates a gradual blend between multiple colors. You can choose from preset gradient fills or create your own.

## Paint Bucket

The paint bucket tool fills an area of an image based on color similarity. Click anywhere in the



ima  
ge  
and



the paint bucket will fill an area around the pixel you clicked.

The exact area filled is determined by how similar each adjoining pixel is to the pixel you clicked on. You can adjust this setting in the options toolbar by changing the tolerance value (make sure the paint bucket tool is selected first). A low tolerance means only very similar colors will be affected, a high tolerance means more pixels will be affected. The range is 0 (exact color matches only) to 255 (all colors).

## Practical use of some Tools

### Color Replacement Tool


1. Open the image in Photoshop
2. Select The Color Replacement Tool from toolbox by clicking on brush tool.
3. You can adjust the size, hardness of the circle as you want from above
4. Increase the Tolerance value to 50% for smooth edges
5. Select the Foreground color from the color swatch
6. Color the object you want to change color

### Mixer Brush

1. Select the Mixer Brush tool from the Tools panel.
2. To load color into your reservoir, Alt+click where you wish to sample that color. You can also choose your desired Foreground color from the Tools panel.
3. Choose a brush from the Brush Presets panel.
4. Set your desired options in the Options bar.
  - a) Current Brush Load Swatch:
  - b) Load Brush after Each Stroke.
  - c) Blending Brush Combinations:
  - d) Specify percentages of Wet, Load, Mix, and Flow

- e) Sample All Layers:
5. Drag on your image to paint.

## Art History Brush tool

1. Select the Art History Brush tool .
2. Do the following in the options bar:
  - Choose a brush from the Brush Presets picker, and set brush options.
  - Choose a blending mode from the Mode menu.
  - Choose an option from the Style menu to control the shape of the paint stroke.
3. For Area, enter a value to specify the area covered by the paint strokes. The greater the size, the larger the covered area and the more numerous the strokes.
4. For Tolerance, enter a value to limit the regions where paint strokes can be applied. A low tolerance lets you paint unlimited strokes anywhere in the image. A high tolerance limits paint strokes to areas that differ considerably from the color in the source state or snapshot.
5. Click and drag in the image to paint.

## Gradient the Canvas

1. Select the paint bucket tool (G then shift+G).
2. Click and drag a gradient path to fill the canvas with a gradient.

## To create a gradient

1. Choose the Gradient tool and click the Gradient Editor button on the Options bar.
2. Click a stop and click the color swatch to the right of the word Color to open the Color Picker and assign a different color to the stop.
3. Click anywhere below the gradient preview to add more color stops.
4. Drag a color stop off the Gradient Editor dialog box to delete it.

5. Click the top of the gradient preview to assign different stops with varying opacity.
  - Assigning varying amounts of opacity using the stops on top of the gradient slider.
  - Assigning varying amounts of opacity using the stops on top of the gradient slider.
6. When you're finished editing the gradient, name it and then click the New button.
7. The new gradient is added to the preset gradient choices.
8. To apply your gradient, drag across a selection or image with the Gradient tool.

### **Magic Eraser tool**

1. Select the Magic Eraser tool.
2. Do the following in the options bar:
3. Enter a tolerance value to define the range of colors that can be erased. Select Anti-aliased to smooth the edges of the area you erase.
4. Select Contiguous to erase only pixels contiguous to the one you click, or deselect to erase all similar pixels in the image.
5. Select Sample All Layers to sample the erased color using combined data from all visible layers.
6. Specify an opacity to define the strength of the erasure. An opacity of 100% erases pixels completely.
7. Click in the part of the layer you want to erase.

## **SUMMARY**

1. The Brush tool and the Pencil tool work like traditional drawing tools applying color with brush strokes.
2. The Brush tool is a basic painting tool. It works like a traditional drawing tool by applying the color using strokes.
3. The pencil tool is nothing more than a rip off from the brush tool. In fact, all it really consists of is a 1-pixel brush tool tip.
4. The Mixer Brush creates realistic painting techniques such as mixing colors on the canvas, combining colors on a brush, and varying paint wetness across a stroke.

5. The History Brush tool to apply an image area from a different state or snapshot to your current state.
6. The Art History Brush tool is an interesting variation on the plain old History Brush tool. Both tools paint over an image by using information from a previous state.
7. The Gradient tool creates a gradual blend between multiple colors. You can choose from preset gradient fills or create your own.
8. The paint bucket tool fills an area of an image based on color similarity. Click anywhere in the image and the paint bucket will fill an area around the pixel you clicked.

## EXERCISES

### A. Fill in the blanks

- i. \_\_\_\_\_ tool is basic painting tool.
- ii. \_\_\_\_\_ enables us to change the color of an object in a photo without a lot of fuss or hassle.
- iii. \_\_\_\_\_ brush tool is an interesting variation on the plain old History Brush tool.
- iv. \_\_\_\_\_ tool creates a gradual blend between multiple colors.
- v. \_\_\_\_\_ fills an area of an image based on color similarity.

### B. Find true or false

- i. Paint bucket tool creates a gradual blend between multiple colors.
- ii. History brush tool used to apply an image area from a different state or Snapshot to your current state.

- iii. Mixer brush tool enables you to change the color of object in a photo.
- iv. Midtones of Dodge tool changes the middle range of groups.

### C. Short Answer Questions

- i. What is Brush tool in Photoshop?
- ii. Write the use of color replacement in Photoshop.?
- iii. Write one difference between History brush and Art History brush.?
- iv. What is Gradient?
- v. Write the use of Paint bucket tool.?
- vi. Write about painting tools of Photoshop.?

### In the lab



1. Try to replace the color of a Photo using Color replacement tool.
2. Sunita have one photo of her family in photo her father eye get infected with red spot. Help Sunita to remove Red eye from that Photo.