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RESEARCH ARTICLE

A REVIEW PAPER ON BASIC WORKSPACE OF ADOBE PHOTOSHOP

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ABSTRACT

Photoshop is a image editing software not a designing software. Adobe provides many designing software Adobe Illustrator, Image Ready, and Adobe In-Design. Photoshop can do important task includes treating, manipulation, compositing, converting to different format and printing etc. You can know about the Photoshop Interface and how the tools, layers, colors palette, navigators and properties works. How to work with raster images, smart objects, levels and adjustments in Photoshop. How to work color theory in Photoshop. How you can edit the original images. Photoshop work with different file format.

INTRODUCTION

Adobe Photoshop is Raster Graphics editing software. It is developed and published by Adobe Company. But Adobe Photoshop is originally created by Thomas and Jhon Knoll. Photoshop is majorly used for photo editing, but you can make many types of graphics. Adobe Photoshop is designed for Mac (OS) and Windows. In Photoshop saving File Format is .PSD or .PSB. Photoshop has several color modals RGB, CMYK, Grayscale, Bitmap and lab color. You can edit vector graphics and 3d graphics and videos. Its features you can be set and expanded by plug-ins programs. Photoshop is available in 26 languages- English (USA), English (UK), Arabic, French, Chinese, Dutch, German, Italian, Japanese, Korean, Russian, Ukrainian and etc. you can make also UI (User Interface) and UX(User Xchange) designs on Photoshop. Photoshop was bundled with much software, Adobe Image Ready, Adobe fireworks, Adobe Bridge and Adobe Camera Raw. Photoshop is initially released on 18 Feb, 1988. This Software's platform is 64 or 32. Like Photoshop, Adobe Company also develops and publishes Photoshop element, Photoshop light room, Photoshop Express, Photoshop Sketch, Photoshop fix. In this software we work on layers, paths and channels, majorly we work on layers. Photoshop 1.0 was released on Feb. 19, 1990 only for Mac OS(X). At the time Photoshop 1.0 was released, to use cost around \$300 an hour for basic photo editing. (1).

File Format: Photoshop file format is .PSD which stands for Photoshop document. Photoshop files store an images PSD files include layers with masks, opacity (transparency), text, alpha channels, spot colors, clipping mask and duo tone setting. Photoshop support many types of image file format (jpg, jpeg, tiff, gif, png), Photoshop also support vector format (pdf, eps, svg and etc), Portable bitmap (pbm, pgm, ppm, pnm, pfm, pam), Targa (tga, vda,icb, vst), Pixar (pxr), WBMP. PSD file gas maximum width and height of 30,000 pixels and length limit of 2GB (1)

Photoshop Versions: Photoshop given the naming of version numbers, Adobe Company published 13 versions with major and minor changes before the October 2003 introduction of Adobe Creative Suite.(1)

CS (Creative Suite):

The first Photoshop CS was major version of Photoshop, released in October 2003. Photoshop CS increased user control life browser expanded search versatility shorting and sharing capabilities. Histogram Palette helps to view pixels value and tonal range of an image (1).

CS2: Photoshop CS2 was released on 2005; it expanded predecessors with new tools and features. It included spot healing brush, which is used for common handling programs blemishes, red-eye, noise blurring and lens. One of the most important inclusions of CS2 is smart object implementation, which allows you to transform and scale an image without losing quality. This version brought the vanishing point and image warping tools. Camera Raw 3.0 was new addition of CS2 and it allows to Camera Raw files to be modify simultaneously (1).

CS3: CS3 Introduce new tools and features from previous versions. One of the most important streamlined interface which allows to increased interface, efficiency and speed. CS3 support over 150 Raw formats as well as JPEG, TIFF, PNG and PDF (1). CS3 and CS3 Extended released in US and Canada. They were also available on adobe online store and authorize Adobe Reseller. Both products are compatible with Intel based Macs and Power PCs, supporting windows XP, Windows Vista. CS3 is the first Release of Photoshop that will run natively on Macs with Intel Processor (1).

CS4: CS4 and CS4 Extended released on October 15, 2008. CS4 includes new features such as smoother panning and zooming, allowing faster image editing at a high magnification. CS4 features a new 3D engine allowing conversions of gradient maps to 3D effect, adding depth in layers and text, 3D engine allows user to paint directly on 3D modals, warp 2D images around 3D shapes and animate the 3D object. After the success of the CS3, CS4 is the first X64 edition of Photoshop on consumer computers for windows. The color correction tools have been also improved significantly (1).

CS5: Photoshop CS5 is released on April 12, 2010. CS5 introduced new tools such as the aware fill, refine edge, mixer brush, bristle tips and puppet warp. These includes image straightening, the rule-of-third cropping tool, color pickup. CS5 includes in CS5 plus features 3D and video editing (1).

CS6: Photoshop CS6 released on May 2012. CS6 added new creative designing tools. CS6 brought a suite of tools are video editing. CS6 allows background saving, while another document is compiling and archiving itself. CS6 has also features a customizable auto save features (1)

CC (Creative Cloud): Photoshop CC (14.0) was released on June 18, 2013. CC is the major software after CS6. Photoshop CC is only available as part of Creative Cloud subscription. Adobe released two additional features bearing updates. The first version is 14.1 was released on 9 September, 2013. The major feature in this Photoshop version were adobe generator a node.js based platform creating plug-ins. Versions 14.2 was released on January 15, 2014 major feature are include perspective warp, linked smart object and 3D printing support.(1)

CC 2014: Photoshop CC 2014 (15.0) was released on June 18, 2014. CC 2014 improves their feature content aware tools two new blur tools.(1)

CC 2015: Photoshop CC 2015 was released on June 15, 2015.(1)

CC 2017: Photoshop CC 2017 was released on November 2, 2016. In December 2016, a minor update released of photoshop CC includes support for the Mac Book Pro touch bar. It featured redevelopment the brush organization system, allowing more properties (color properties). CC added also brush stroke smoothing and over 1000 brushes created by Kyle T. Webster.(1)

CC 2019: Photoshop CC 2019 was released on October 15, 2018. Beginning with Photoshop CC 2019 (20.0) the 32 bit version of is no longer supported.(1)

This version introduced new feature including new tool called frame tool to create place holder frames for images. It's also added multiple undo mode, auto commitment, live blend mode previews mode option in the layers panel, other additional features were color wheel, transform proportionally without shift key, ability to see longer layer name, match fonts with Japanese font flip document to view, scale UI to font.(1)

Photoshop Plug-ins: Photoshop extended add-on programs called Photoshop plug-ins. Adobe creates some plug-ins like Camera Raw, but other companies develop most plug-ins, according adobe specification. Some plug-ins is free and some are commercially. Most plug-ins work with only adobe Photoshop, there are various types of plug-ins such as filters, export, import, selection, color correction and automation. The most popular plug-ins filter plug-ins under the filter many in Photoshop (1).

There is some Photoshop plugs-ins

- Color correction plug-in: Alien Skin Software, Nik Software, On One Software, Topoz Laps Software, The plug-in site.
- Special effect plug-in: Alien Skin Software, Auto FX Software, AV Bros, Flaming Pear Software.
- 3D effects Plug-in: Andromeda Software, Strata.(1)

Photoshop Interface: Photoshop Interface and its features- Document Window, Menu Bar, Attribute Bar/ Option Bar/ Control Bar, Tool Bar and Panels. (2)

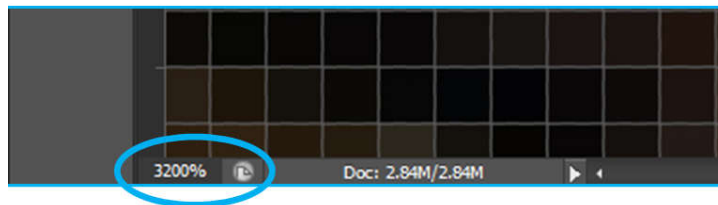


Interface of the Photoshop

Document Window: Which is the large area in the center of the interface where the image or document is displayed. The area where image is displayed that area known as Canvas. The dark area visible around the image is called Pasteboard. Purpose of the pasteboard is filling the space around the image, when the image is too small to fill the entire document window.(2)

Document Tab: At the top of the document window is document tab. This tab is display the name of the file and file type of the document. We can work with multiple documents with another lesson (2).

The Zoom level and status bar: In the bottom left of the document window we get more information about the document or image (2). The current zoom level is display is status bar in left side, by default the status bar is displayed the color profile or document size of image. Left click and hold on the status bar to get additional information of the image, such as width, height, resolution and color information (channels). (2)



Maximum Zoom Level 3200%

You can also change the information which is display on the status bar, click on the right arrow on the status bar to open a menu. You can choose the different options, such as document dimensions (the file size) or document profile or document dimension (width, height and resolution). But we will leave it set to the default document profile. (2)

Menu Bar: At the top of the Photoshop's interface is menu bar. The menu bar where we find various options and commands all grouped into categories. Menu bar options are- file, edit, image layer, type, select, filter view window, help.(3) The file menu holds (new document, open, save, exit, import and export the document. The layers menu options are working with layers. Photoshop has many filters, we find under the filter menu etc. Similarly we can use other menu bar's options. (3)

File menu: The file menu contains the sub menu items like New, open, save, save as, close, close all, save for web, exit and etc. which are commonly used by the users making layout designs.(3)

- New(Ctrl+N): Users use to submenu to create a new document file. This submenu contains file name, preset, width, height, resolution, color mode and background content.
- Open (Ctrl+O): To open a file from another place. Where that file is saved.
- Close (Ctrl+W): Use that menu to close single file.
- Close (Alt+Ctrl+W): Use that menu to close all file from document window.
- Save (Ctrl+S): This menu is used to keep you project or file safe for future editing.
- Save as (Shift+Ctrl+S): If you want to save an image or file with different name or different place.
- Open Recent: This option helps to search mostly open files. That menu shows 10 most recent open files. You can be select to open your needed file by clicking it.
- Save for web (Alt+Shift+Ctrl+S): This option is used for saving the compressed file bar sending the files online because it can manage the size, resolution of the image. It converts the files from Mb's to Kb's. we can manage the image format, quality, optimization and image size etc.

- **Place:** use the option to place your image canvas or document window with EPS format.
- **Import:** We can import the sequence of video frame like in MP4 format etc.
- **Export:** We can export the video frames through rendering option where we can manage the frame rate, quality and format of the video, which has been edited.
- **SCRIPT:** This option is used to import the folder containing images in stack/group to form in different layers in layer palette. Where we can edit the images.
- **Exit:** To close file use the exit submenu form file menu or keyboard shortcut Alt+F4.

Edit: Edit menu used to edit everything like Image, canvas and etc. You can do many actions like undo, Redo, cut, copy and paste.(3)

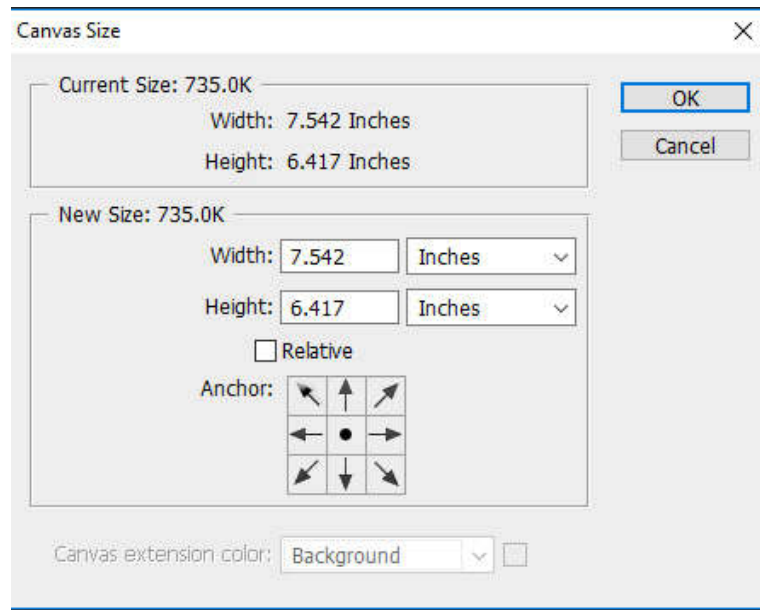
- **Cut (Ctrl+X):** When we want to move an image one place to another place by using this submenu cut, first select the image by right clicking on image cut and then paste that image where we want the image.
- **Copy (Ctrl+C):** We can produce a copy of a selected image from computer's memory and paste in canvas or clip board.
- **Paste (Ctrl+V):** This option is used to drop and display an image on clipboard or canvas by using cut, copy or copy merged command.
- **Fill:** This option is used to fill any kind of solid color in shape or object.
- **Stroke:** This option is used to fill outline around the selected area. You can set the width, color or location in selected area.
- **Free Transform:** Through this command you can freely resize the any shape or object and rotate it in direction.
- **Transform (Ctrl+T):** This command is work like free transform. Transform has many options such as- Again, Scale, Rotate, Skew, Distort, Perspective, Warp, Rotate 180⁰, Rotate 90⁰ Clock wise, Rotate 90⁰ CCW, Flip horizontal, Flip Vertical.
- **Again:** This option is used to one more time apply previous transform on the copy layer
- **Scale:** This command is used to resize any selected layer.
- **Rotate:** This option is use to turn the shape or any object or layer in any direction.
- **Skew:** This option is used to earn skew in any straight side form.
- **Warp:** It is used to the shape or object thorough anchor point in any direction with the help of anchor arrows.
- **Distort:** This command is used to distort the shape in any position as you want.
- **Perspective:** This command is used to expand or short any type of side of the selected layer, that is provide all natural goal to the picture on the same layer.
- **Rotate 180⁰:** This command is used torotate any selected layer at the angle of 180⁰.
- **Rotate 90⁰ Clock wise:** This command is used to rotate any selected layer at the angle of 90⁰ clockwise.
- **Rotate 90⁰ Counter Clockwise:** This command is used to rotate any type of object the selected layer at the angle of 90⁰ counter clockwise.
- **Flip Horizontal:** This command is used to convert the selected layer right side to left side left side to right side.
- **Flip Vertical:** This command is used to transform the object top and bottom of the object.

Image: This menu is working with image and also your canvas. You can resize your file; adjust levels and curves, duplicate pictures, crop, trim, image rotate from here. (3)

Mode: You can change the current document color mode and also bit depth. You can select those options such as Bitmap, Grayscale, Duotone, Indexed Color, RGB, CMYK, Laboratory and multichannel color mode. (5)

- **Bitmap Mode:** Convert an image into bitmap mode reduces the image to two colors, simplify the color information in the color and reduced its file size. (6)
- **Duotone Mode:**Duotone mode creates monotone, duotone (two color), tri tone (three color) and quad tone (four color) grayscale image using one to four custom colors. It can be only done when the image is flattening to black and white mode. (6)
- **Indexed color Mode:** Indexed color mode produced 8-bit image file with up to 256 colors. When convert the image into indexed color, photoshop build a color look up table (CLUT), which store and index the colors in the image indexed color can reduce file size and maintain the visual quality multimedia presentation and web pages. Limited editing is available in indexed mode. Indexed colors files saved in photoshop, BMP,GIF, EPS, PNG, PDF, Photoshop Raw, Targa and Tiff format. (6)
- **Adjustments:** You can change the colors and tonal range of your image. (5)
- **Level (Ctrl+L):** you use the levels correct to the tonal range and color balance of an image by adjusting intensity levels of image, midtones shadows and highlights. (6)
- **Curves(Ctrl+M):** In the curve adjustments you adjust the tonal rangethrough points the curves adjustment can be applied CMYK, Lab or grayscale images for CMYK image, the group displays the percentage of color or pigment. For lab and grayscale image, the graph displays light value when adjusting RGB image, the upper right area represent the highlights and the lower left area represent the shadow in graph. The horizontal axis represent the input levels (Real Image Value) and the vertical axis represent the output levels (New adjust Value) in the graph. (6)
- **Threshold:**To using this command you can create a tone color effect. A full color photo covert into a black outline.
- **Image Size (Alt+Ctrl+I):** This option is used to change the width, height and resolution of an image.(3)

- **Canvas Size (Alt+Ctrl+C):** You can change the size of document or resolution to use this option. If you need more space in your file or document but don't want to resize the objects that are already there. (3)



- **Crop:** This command is used to delete the unwanted area to keep selected area. (3)
- **Trim:** Like crop, this option is used to delete the empty or transparent pixels. (3)
- **Type:** Type menu has available many submenus like panel, anti alias, orientation, open type, extrude 3D, create work path, convert to shape, warp, text, and etc. (3)
- **Select:** In this menu you seize layer, pick colors, use quick mask mode and more.(3)
- **All:** This command is select everything on the current layer.
- **Deselect:** This option is used to get rid of the marching ant around the selection.
- **Reselect:** This option is used to get the selection back.
- **Inverse:** This option is used to select an area and you want to flip flop the selection to select the part that's part not selected.
- **Filter Menu:** This menu has all kinds of objects that you can apply to your image. Its filter type: Blur, Sharpen, Artistic, Noise and many more. (3)
- **Artistic:** this tool is used to make your image like drawing and painting.
- **Blur:** This filter is used change your focus in part of an image. There are many type of blur: Gaussian Blur, Lens Blur, Motion Blur, Radial Blur, Shape Blur, and etc. (3)
- **Gaussian Blur:** This filter is mostly used to blurring parts of an image and softening the edges of a layer mask. The filter is reducing noise in image.(7)
- **Field Blur:** When you want to focus on an area of your image like as the foreground or background.(7)

Motion Blur: Motion blur is the freak like effect that found when shooting a still image, because your objects are moving sharply through the frame or the camera takes time laps photography. The motion blur effect can be used to give a photo more luminaries or punctuate an objects movement. Photos are never textual or literal- they can present mood, an action, a long stretch of time or anything the photographer want to start.(8)

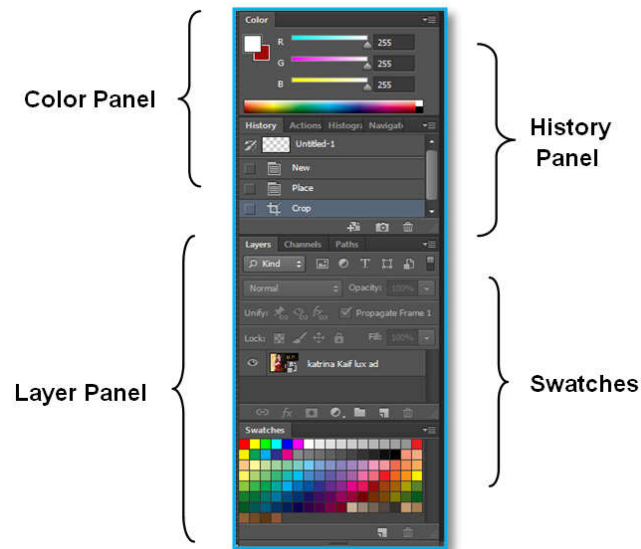
Radial Blur: Radial blur is a special kind of blurring effect that produced at a single point of an image and blurs outwards or inwards to the points. This effect arranged the rays in radiate form or change in a normal center. (9)

Distort: This filter is used to create geometric pattern on your image including Twirl, Wave, Ripple, ZigZag, Wave and etc. (3)

3D: This is an extended menu includes tool for working with 3D images like rendering and painting on 3D object. (3)

- **View:** These options are used in different ways of looking at your image for zoom in or zoom out to adding guides and ruler.(3)
- **Zoom In:** It is used to increase an image of magnification level.
- **Zoom out:** it is used to decrease an image of magnification level.
- **Rulers:** this command is used to show or hide the horizontal and vertical rulers that run along the document windows left side and top of document windows.
- **Window:** This menu is use to change what you want to see in Photoshop interface. You can arrange your open document. You can hide and view panels like- arrange, workspace, extension, layer, style, swatches, options, tools and so on.(3)

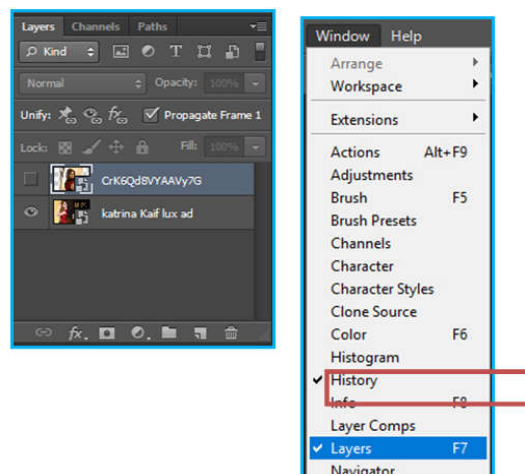
- **Option Bar / Property Bar / Control Bar:** option bar is directly linked with tool bar. Which tool you have selected that properties display in option bar. You will find the option bar at the top of interface, just above the document window. Here we see that, currently we have selected Rectangular Marquee Tool, the option bar showing the properties of rectangular marquee tool.(2)
- If we select **crop tool** then different property showing in property bar.
- **Panels:** We find the panels in right side of interface panels gives us to access to all short command and options, different panels for different tasks. The most important panel is layer panel, where we add layers and work with document or image.



- **Layers:** Layer provides a transparent frame work where we can organize our work with easily. Create content on separate layers provide control over the object, easy to work and manage effects individually. Every document file has background layer by default you can lock, merge, hide, rename, make duplicate, delete, group layers.
- **Tool Bar:** Photoshop has variety of toolswith multiple image editing functions thatappears to the left of the screen. These tools are dividing in categories- drawing, painting, measuring, and navigation, selection, typing, and retouching. Some tools contains smallrectangle icon in bottom right of the tool box.They can be expand and reveal similar tools. (1)



- **Marquee Tool:**Marquee tool is used to make selection over the image, where you can edit, colored, copied, cut and moved. There are four types of marquee tool- (1)
- **Rectangle Tool (M):** The tool is used to select the rectangular surface of the image. Once a tool has selected, dragging the tool over the desired area will select it. The selected area will be outlined by dotted line, appeared like “Marching-Ants”.To crop the selection, the user must go to image tab and select crop.(1)



- **Elliptical Marquee Tool:**The tool is used to select the elliptical surface of image. This tool is not allowed to crop the selected area, but you can apply many effects to selected area. (1)
- **Single Row Marquee Tool:**Single row marquee tool is selected a single horizontal pixel of image. (1)
- **Single Column Marquee Tool:**Single column marquee tool is selected a vertical pixel of image. (1)
- **Move Tool:**Move tool can be use to drag the image of a single layer or more layers are selected. The move tool used to manually relocate the selected image to anywhere on the Canvas. (1)
- **Lasso Tool:**The lasso tool is similar as a marquee tool. User can make custom selection to make free hand drawing. There are three lasso tool- (1)
- **Lasso Tool/Regular Tool:**Simply Click and drag over an image by holding the mouse and must be connected the end point to the starting point. (1)
- **Polygonal Lasso Tool (L):**The Polygonal lasso tool will draw only straight lines. (1)
- **Magnetic Lasso Tool:**This tool is considered the smart tool. This tool can detect the edges of an image. It detects by examining the color pixels as cursor move over the desired area. Once the selection area has been closed that area display the “marching-Art”. (1)
- **Quick Selection Tool:**This tool selects areas based on edges. The tool and lasso tool is that there is no starting and ending point. You can select the area with Shift+ click. Once the selection is done, the selected area can be edited without affecting the rest of an image. (1)
- **Magic Wand Tool:** Magic wand tool selected the area based one pixel of similar value. (1)
- **Crop Tool:**The crop tool is used for trimming and moving the unwanted area of an image. Drag the crop to over an image, once enter key is pressed the area outside the rectangle will be cropped, which allow the file size to be decreased. (1)
- **Slice Tool:** The “Slice” and “Slice Select Tool” like the crop tool are used in isolating part of images. The slice tool can be used to divide an image into different sections and these parts can be used as a piece of web-page design where HTML and CSS are applied. (1)

Measuring and navigation tool: Eye dropper tool: This tool is used to select color from an area of the image or object.

- Hand tool: this tool is used to navigate an image by moving it in any direction.
- Zoom tool: This tool is used to enlarge the part of an image that is clicked on, allowing for a closer view.(1)

Shape tool:Photoshop provide the shapes such as – Rectangle tool, Rounded Rectangle Tool, Ellipse tool, Polygon Tool, Line Tool and Custom Shape Tool. These shapes can be manipulated by the pen tool or direct selection tool. Photoshop Provide its own shapes like animals, signs and plants to make vector graphics.(1)

Clone stamp tool: The clone stamp tool duplicates one part of an image to another part of the same image by way of a brush (with alt+click). The user can also clone part of one layer to another layer. The clone stamp tool is useful for duplicating an image for remove defect in an image.(1)

Pen Tool: The pen tool creates precise paths that can be manipulated by using anchor points. The freeform pen tool allow to user to draw free hand drawing or paths. Add anchor points in path. Delete anchor point pen tool used for delete extra anchor point from path to fill color in shape which is draw by pen tool, must be closed.(1)

Gradient fill: This tool helps user to mixing two or more colors. The gradient tool can be used to draw linear, radial, angle reflected and diamond.(1)

Paint bucket Tool: The paint bucket tool fill pixels that are similar in color value to the pixels you click. Paint bucket tool fill only foreground color in object paint bucket tool cannot be used with bitmap images. The paint bucket tool grouped with gradient tool to use it.(1)

Eraser tool: Eraser tool used to erase the data. Eraser rectangle tool to normally erase the data you can increase or decrease the size of eraser tool or tolerance. Background eraser tool to use for erase the background color and magic eraser tool erase the same color pixel value of object.(1)

Blur Tool, Sharpen tool and smudge tool: Blur tool used to blur an image and where you want to focus on your image.(1)

- Sharpen tool** used to sharp the image’s pixel.
- Smudge tool** used to blend the two colors or mixing two colors.

Dodge Tool, Burn Tool and Sponge Tool: The dodge tool and burn tool do lighten and darken area of an image. These tools are based on a dark room technique for regulating expose on specific areas of a print.(1)

Sponge tool allows you to change brush to de-saturate or saturate a desired area on an image. De-saturate is to take color away and saturate is to add more color or brighten an image.

Text Tool: This tool is used to write the text on document and image. This tool has many types of tool like- horizontal type tool, vertical type tool, horizontal type mask tool and vertical type mask tool.(3)

- **Horizontal type tool:** This type tool gives permission direct on image text editing. The horizontal type tool adds text flat.(3)
- **Vertical tool:** This type tool adds text up and down.
- **Horizontal type mask tool:** The type mask tool gives permission to cut letters out of a background. The “Horizontal type mask tool” is use to mask the background image into the text typed horizontally. (3)
- **Vertical type mask tool:** The vertical type mask tool use to cut letters from a background. The vertical type mask tool is used to mask the background image into the text typed vertically. (3)

Color mode and color models

RGB (Red, Green, and Blue): RGB color is the highest color model that is used to TV and Monitor display. The color value ranges from 0-255 and these values are measured the relative strength of colors.

R=255G=0B=0Red

R=100G=128B=69Green

R=0G=0B=255Blue

R=0G=0B=0Black

R=255G=255B=255White

- **CMYK (Cyan, Magenta, Yellow, and Black):** CMYK is a medium quality of color mode. It is mainly used for printing purpose. CMYK color model defined the value of colors in percent (%). (5)
- **HAN:** HAN stands for Hue, Saturation and Brighten. HAN is used on human perception. The HAN model describes three fundamental characteristics of color model- (5)
- Hue is the color reflects from an object. It is measured as a location on color wheel express as a degree between 0^0 and 360^0 , Hue is identify by the name of the color like Red, Orange or Green.
- Saturation is the strength or purity of color. It is sometime called chroma. Saturation represents the amount of gray in proportion of hue, measured as a percentage from 0% (gray) to (100% fully saturated). In standard color wheel, saturation increased from the center to the edge.
- Brightness is the relative lightness or darkness of the color, its measured as percentage from 0% black to 100% white.

There are many Color Modes

- 1.RGB
2. CMYK
3. Grayscale
4. Indexed mode
5. Lab Color.

Grayscale: Grayscale is the shade of gray without apparent is the total absence of reflect light the lightest possible shade in grayscale is white.(5)

What is Layer?: One of the most powerful features of Photoshop’s is layers. Layers are located in layer panel. Layer panel contains many features- such as opacity, lock, blending mode, link layer, layer style, layer mask, adjustment or fill layer, new group, create new layer and delete layer. The new layer is above recent layer, where each layer has different shapes, text, or images. That layer’s object can be moved and edited separately (4). Layer panel is visible in right side on document window by default. If layer panel is not visible in Photoshop window, then it can be added by window menu.(5)

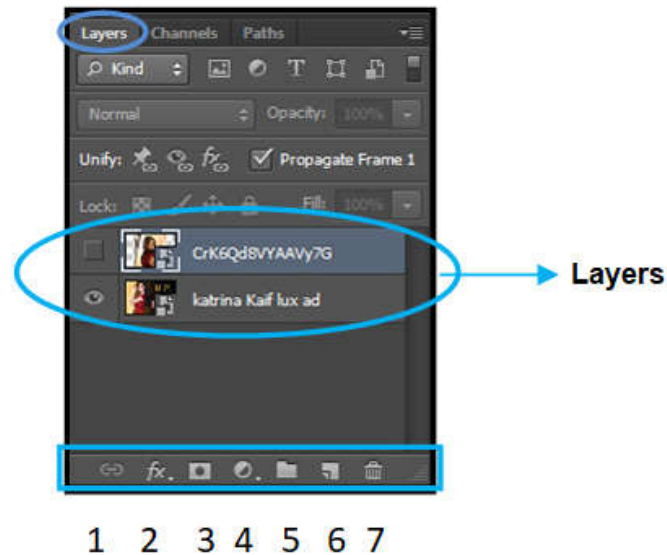
Go to menu bar select **WINDOW > LAYERS**. Press short cut key for visible layer is **F7 (functional key)** on keyboard. The new layer is above on recent layer, where each layer has different object, etc. that layers object can be moved and edited separately in Photoshop. (5)

Purpose of the Layers: Main purpose of layer is making the work ease. You can apply effects individually on layer and you can move object individually. If you export many images on one layer you cannot move and apply effect on your object individually. If any effects apply on object first you need to reterize the layer.

Smart object in Photoshop: Smart object contain image data of Raster or Vector Images. Smart objects lock the pixels of an image. Without losing any data you can scale, rotate, skew, distort, perspective transform or warp an original image data or quality, because the transform do not affect the original image data. You can apply edit filters on smart object at any time. If you edit one smart object then automatically update all its linked layers. You cannot apply that filters directly on smart object- such as painting, dodging, burning, cloning and blur filter etc.

Rasterize Layer: Rasterizing layer convert a vector layer to pixel based layer. Rasterize layer merged with other layers and that can be edited with pixel based tool. When you rasterize a layer its losses vector features. When a layer convert into pixels or rasterize that time zoom in, you can see the edges are seeing in tiny squares. That tiny square is called pixels. Some Photoshop tools- such as filters, brushes, eraser, and paint bucket fill, cloning, dodging work only with rasterize layers. When you apply effect on layer then you will receive a message to warn you try to use tool that requires it or not.

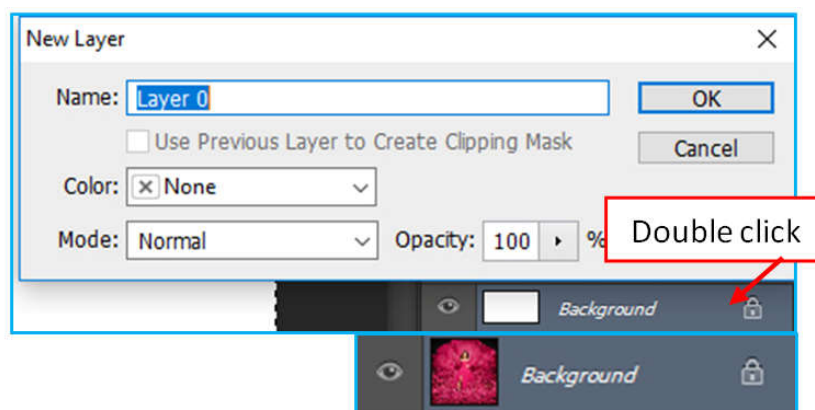
The layer Panel: Layer panel showed on the right side of the document window by default. Layer panel has many features that can be used for visual control or layer organization (4).



- **Link layer:** Allows layer to link together then they can be edited, moved, delete as a single layer.
- **New layer style:** You can add new affects on layer like- drop shadow, bevel emboss, stroke, inner glow, and pattern overlay etc.
- **Add Layer mask:** Layer mask has ability to control transparency of all pixels within layer.
- **Adjustment or fill layer:** Without any disturbance that features allows to many adjustments like- brightness and contrast, hue/saturation, gradient, photo filter, channel mixer etc.
- **New Group Layer:** Create a group of layers they can be moved, edited or selected layer together as a one layer.
- **New Layer:** To create a new layer in layer panel to click on create a new layer icon.
- **Delete Layer:** You can delete the selected layer in layer panel.

Background Layer: When you open an image or new document is created with a colored, white, and transparent background, that image or document has contained a layer called a background layer (4) A document or an image has only one background layer. By default that layer is locked then you cannot change the order of layer, blending mode and the opacity of the background layer, this layer will always be a bottom layer. If you need to changes in background layer, the layer must be converted into regular layer. (4)

To change a background layer into a regular layer or normal layer: Double click on background layer >click on **OK** Button. The default. Name of new layer will be Layer0. Now you can change the name of layer, then click OK button. Now the background layer will be a regular layer that can be removed, blending mode are not applied in this layer. But it has ability to change to *opacity* on the layer. You can also change the background layer into regular layer.

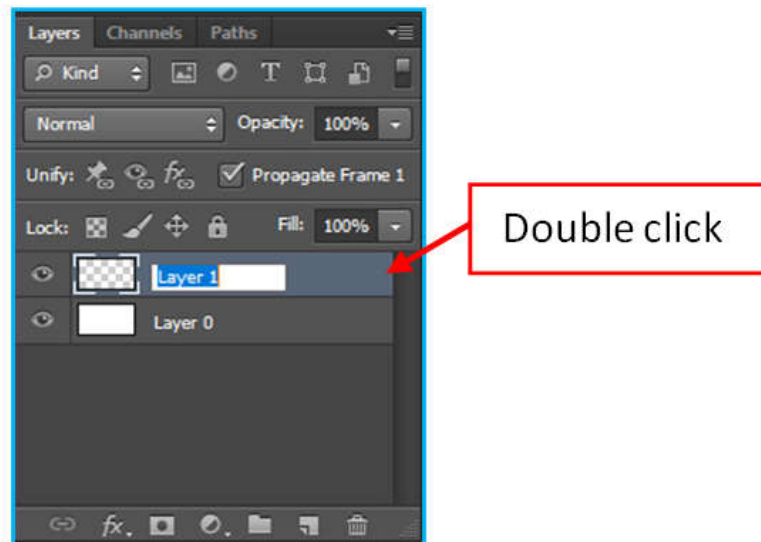


By going-

Select layer menu> New> Layer from Background> OK

If you create a new document with transparent layer that document contain a regular layer called Layer 1 and it will not have background layer.

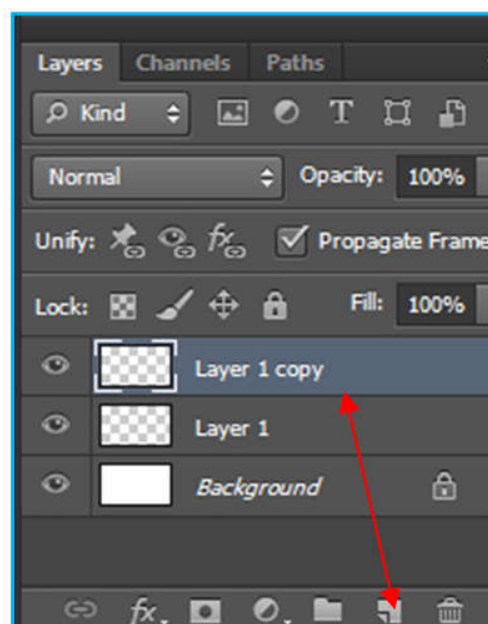
Rename Layer: In Photoshop document you can renaming the layer easily double click on layer name like Layer1 of regular layer in layer panel, the layer name will be highlight. Then you can type the new name and press enter key on key board or click the mouse anywhere. (4)



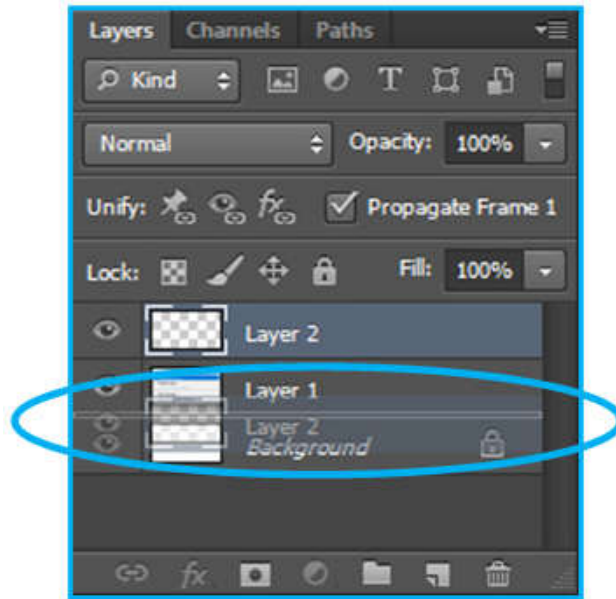
Create a new layer: To create a new layer in document, click on the create a new layer option or icon on the bottom of the layer panel. (4). The new layer has default name like layer1, layer2, layer3 etc. when you create a new layer, it will be placed on top of the layer, that time which layer is already selected. You can create a new layer to another way to click on a menu icon on the upper in left corner of the layer panel, and then select new layer.

Shortcut key to create a New Layer is Shift+ctrl+N. (4).

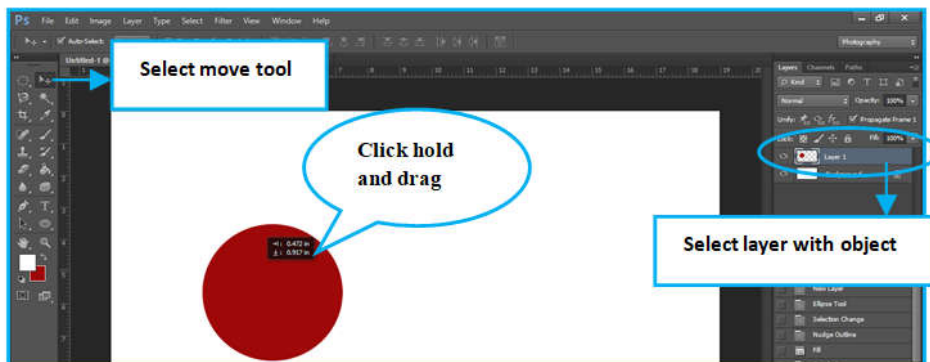
Duplicate a Layer: Duplicate a Layer will make an exact copy of an existing layer but the layer can be edited individually to duplicate a layer click, hold and dragged the layer on create a new layer icon. Photoshop will create the layer with the same name as the original layer. To rename the duplicate layer double click on layer and write new name. (4) Another way to create a duplicate layer, by right clicking on layer or menu icon and select the duplicate layer from submenu. Shortcut to create a duplicate layer is Ctrl+J. (4)



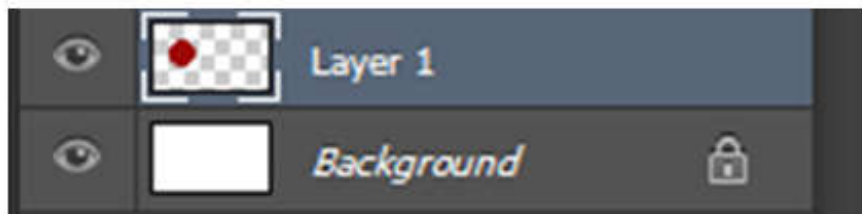
How to move the Layer: To move any layers, click and hold on the layer that is to be moved and drag into the new location, when you drag the layer in layer panel a line will be visible to show where the layer will be locate. (4). When the line is appearing the correct location, release the mouse button to place the new layer.



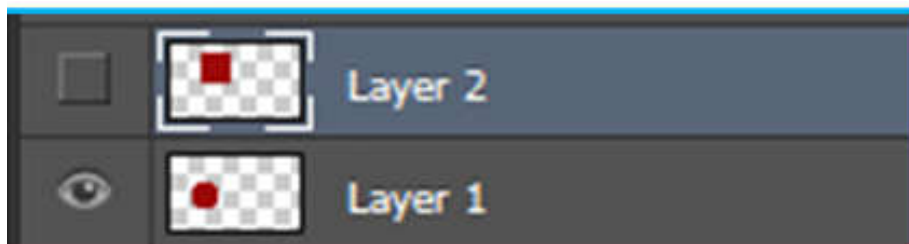
When objects on a Layer: A layer can contain one or many object. To move an object on a layer the layer must be selected in the layer panel. After select the layer, select the move tool(V) click, hold and drag the object one place to another place. (4)



Layer Visibility: In the layer panel every layer has an Eye icon on the left side of the layer which icon indicates the layer visibility. When the Eye icon is visible then the layer is visible. To check the layer visibility simply clicks on the layer icon. (4)



Layer1 and Layer2 both layers are visible.




Layer1 is visible and Layer2 is not visible.


Lock Layers: In the layer panel you can be lock the layer to protect the content being change entirely. You can lock to prevent the pixels, to moved, to change transparency on the layer. (4). To lock a layer selects the lock icon which is located on the top of the layer panel.

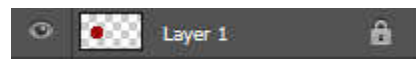
Lock options

Lock the transparent pixel:  limits editing in the opaque part.

Lock the image pixel:  refuse to modification to the layer's pixel when using the painting tool.

Lock position:  refuse to move the layers pixel.

Lock all:  After lock the layer you can not do any modification. When a layer has been locked, a lock item will be appearing on the right side of the layer. The lock icon will visible differently on layer, if layer is full locked or partial lock. (4)

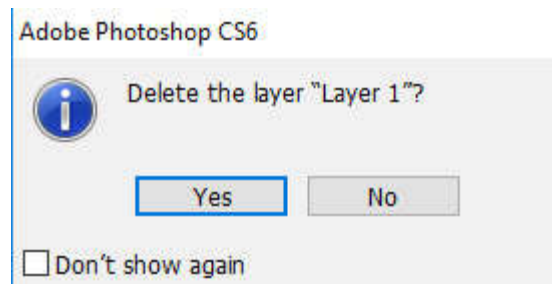


Fully Locked Layer

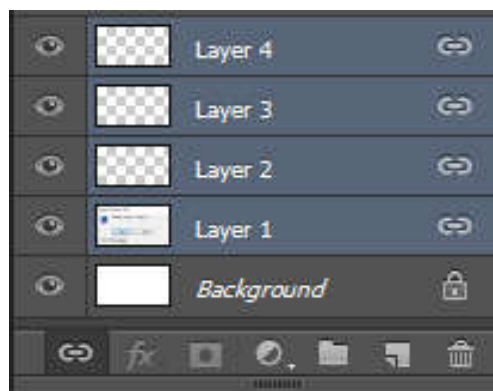


Hollow Locked Layer

Delete Layer: If the layer is no longer is used in Photoshop document then delete the layer and reduce the file size. You can delete the layer in many ways. (4). To delete a layer, right click on the layer and select the delete layer. If layer deleted in this way then Photoshop verify to delete the layer. Click on OK button.



Link Layer: When layers are linked together that layers can be very beneficial when some layers related to each other. When you used any effects on one layer, that will be done to all linked layers.(4).



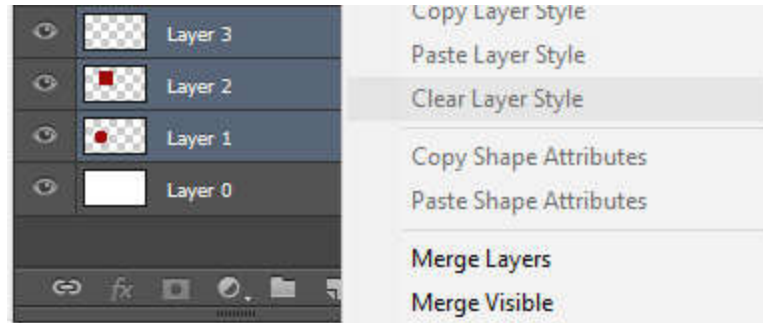
To link layers, select the layers and click on the link icon. If layers are linked together then link icon is displayed on the right side of the layer. To unlink the layer select all link layer and click the ink icon.

Group Layers: Group layers helps to organize your work and keep your layer panel uncluttered. Purpose of group layers is to organize, if the document has been created in multiple layers. The benefit of group layers is ability to add and remove single layers into group, ability to make changes to individual layer in group. (4)



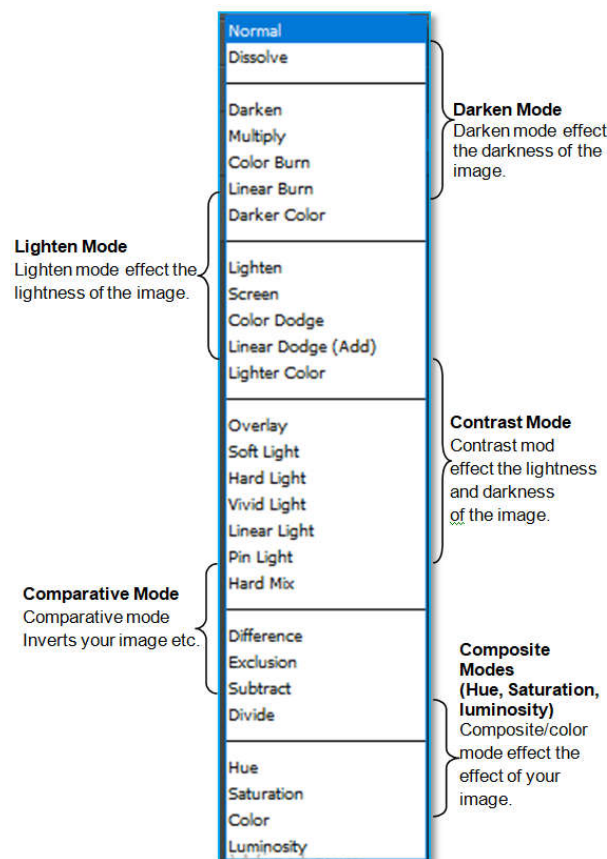
To group layers select the multiple layers in layers panel the selected layers drag on group icon, at the bottom of the layer panel or press Ctrl+G for group layer.(4) Another way to group layers, right click on selected layers and the choose option layer._To rename group, double click on group and type the new text.

Merge Layers:when you have finalized the content then you have to merge the layers. When merge the layers the image file size is reduced. To merge layers select that files you want to merge and right click on the selected layers and select merge layers. (4) When you save merged document, you cannot unmerged that document, the layers are permanently merged.

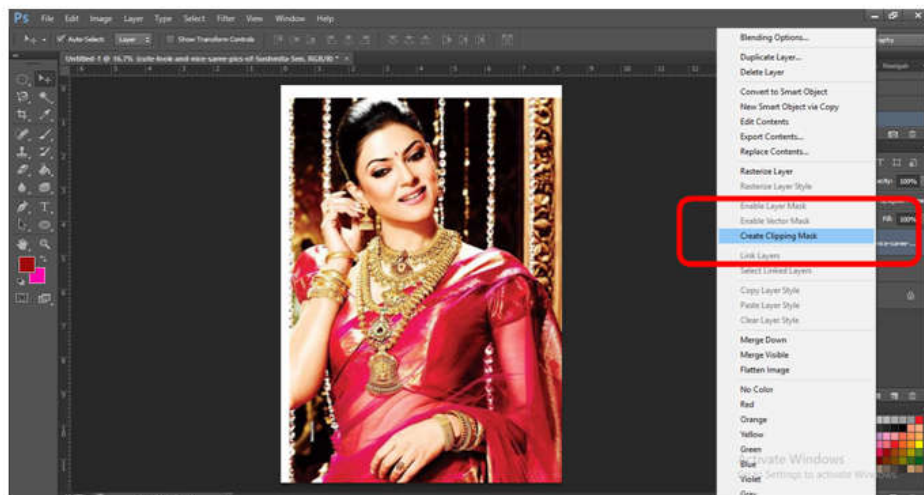
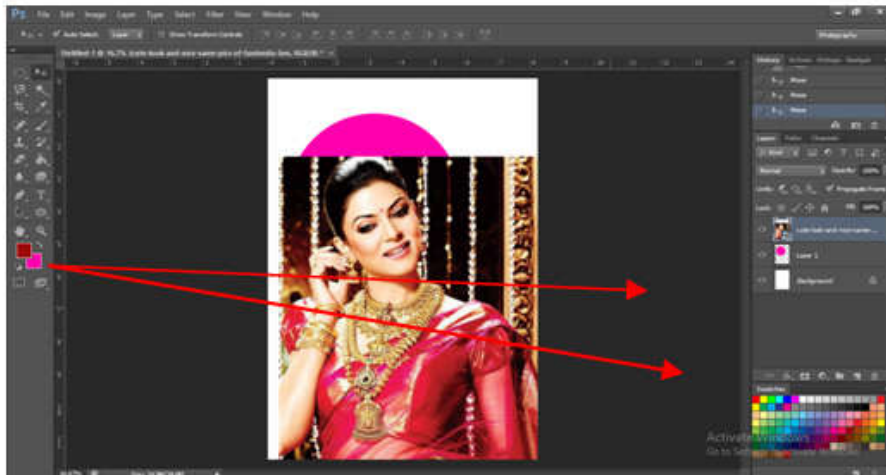
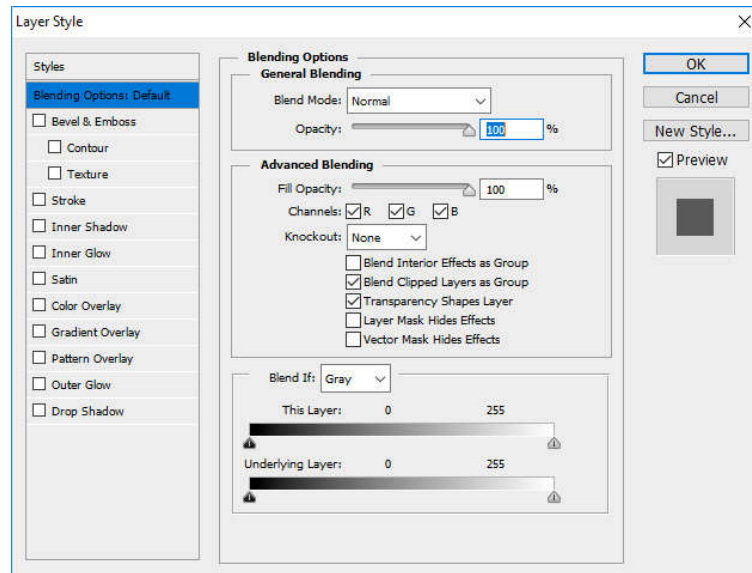


Blending Modes: Using blending mode in Photoshop, we can improve, extend and creatively manipulate the images. Basically it is the way to combines the pixels in Photoshop. You can do this in different ways in Photoshop using layers, brushes, styles.

By default blend mode applied to each layer is normal which means the layers cover it like normal paint on surface. There are many modes to change the layer surface. The blend mode is separated into different blending categories for layers. Every blending mode has some characteristics (5)



Blending Option/ layer Style: Blending options used to special effects to text and images. Photoshop include some in-built layer style that can be applied to layers and text or user can create own styles. (5). To open blending options right click on right side of the layers. Blending options include many effects such as drop shadow, Bevel and emboss, stroke, inner shadow, inner glow, satin, color overlay, gradient overlay, pattern overlay and outer glow (5). Blending options cannot be applied on background layer or locked layer. To apply the blending options to the background layers, then the background layer must be renamed from the default name of the background layer, which will turn the background layer into regular layer (5). Blending option can be also added by selecting the layer to add blending options. To open blending option menu, right click on layer menu and select blending options then the blending options dialog box or window is open. Apply the blending option layer to select the options, each blending options will have many options that can be selected and adjusted, click OK button on the top of the right side of the menu to add the blending option of the layer. (5)



Clipping Mask: A clipping mask is a group of layer which is applied mask. To create a clipping mask we need two layers. The bottom layer controls the visibility of the above layer. In another words, the bottom layer is the mask and the above layer that is clipped to the mask. (10)

Create Clipping Mask

- Create a new document on the Photoshop.

File > New > OK

- Make a shape or where you want to make clipping mask.
- Create a new layer from layer panel.
- Drag and drop or open a new file and press enter key on keyboard.
- Select that layer you will be clipped in shape and right click on image layer and select create clipping mask or go to layer menu and select create clipping mask. (10)
- Press short cut key Alt+ Ctrl+ G to create clipping mask.

Release Clipping Mask

- In the layer panel, select the clipped mask layer.
- Then Right click on clipped layer and select release clipping mask or
- Choose Layer Menu > Release Clipping Mask(10)

REFERENCES

- Adobe Photoshop Wikipedia (https://en.wikipedia.org/wiki/Adobe_Photoshop)(1)
Photoshop interface <https://www.photoshopessentials.com>(2)
Text Tool and Menu Bar <https://www.bapugraphics.com/learnphotoshopfilemenututorials.php>(3)
Layers https://wsnet2.colostate.edu/cwis6/ttcpdf/how_to/PSD/PSDLayers.pdf (4)
Blend Mode <https://helpx.adobe.com/in/photoshop/using/color-modes.html> (5)
Level, Curves (<https://helpx.adobe.com/in/photoshop/using/levels-adjustment.html>)
Gaussian Blur and Field Blur (digital-photography-school.com)
Motion Blur (<https://www.shutterstock.com/support/article/what-is-motion-blur>)
Radial Blur (gamingstackchange.com)
Clipping Mask <https://helpx.adobe.com/in/photoshop-elements/using/clipping-masks.html>
