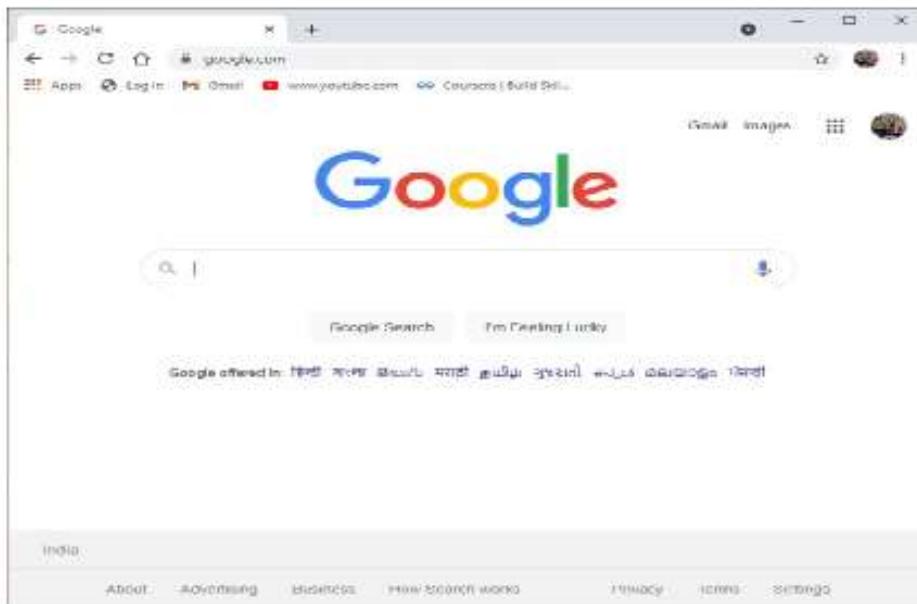


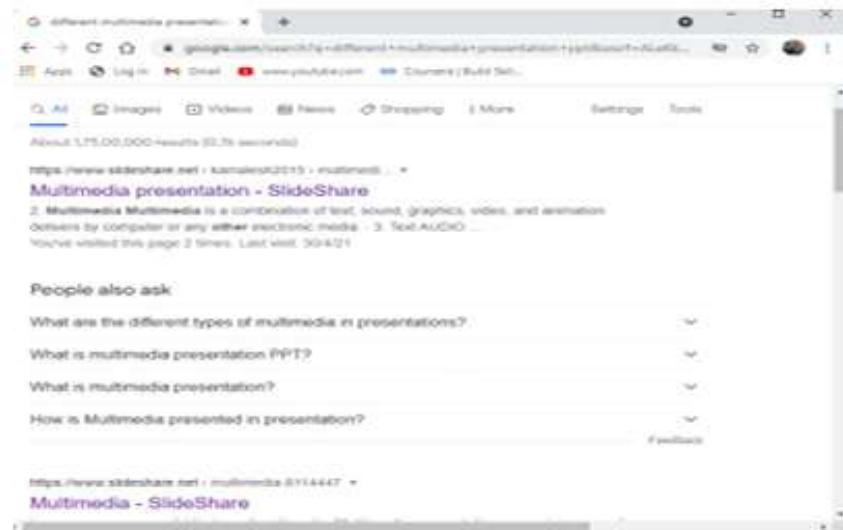
EXPERIMENT NO.1

Browse the Internet and find different Multimedia Presentations and identify the building blocks.

Step1: Open your favourite browser(Google Chrome) with full high-speed internet.



Step 2: Search different multimedia presentation's that are available in browser.



Step 3: Click on your searched multimedia ppt and start downloading it by clicking on "Download" option. Downloaded multimedia presentation is depicted below and Findout the Building block with respect to downloaded ppt.

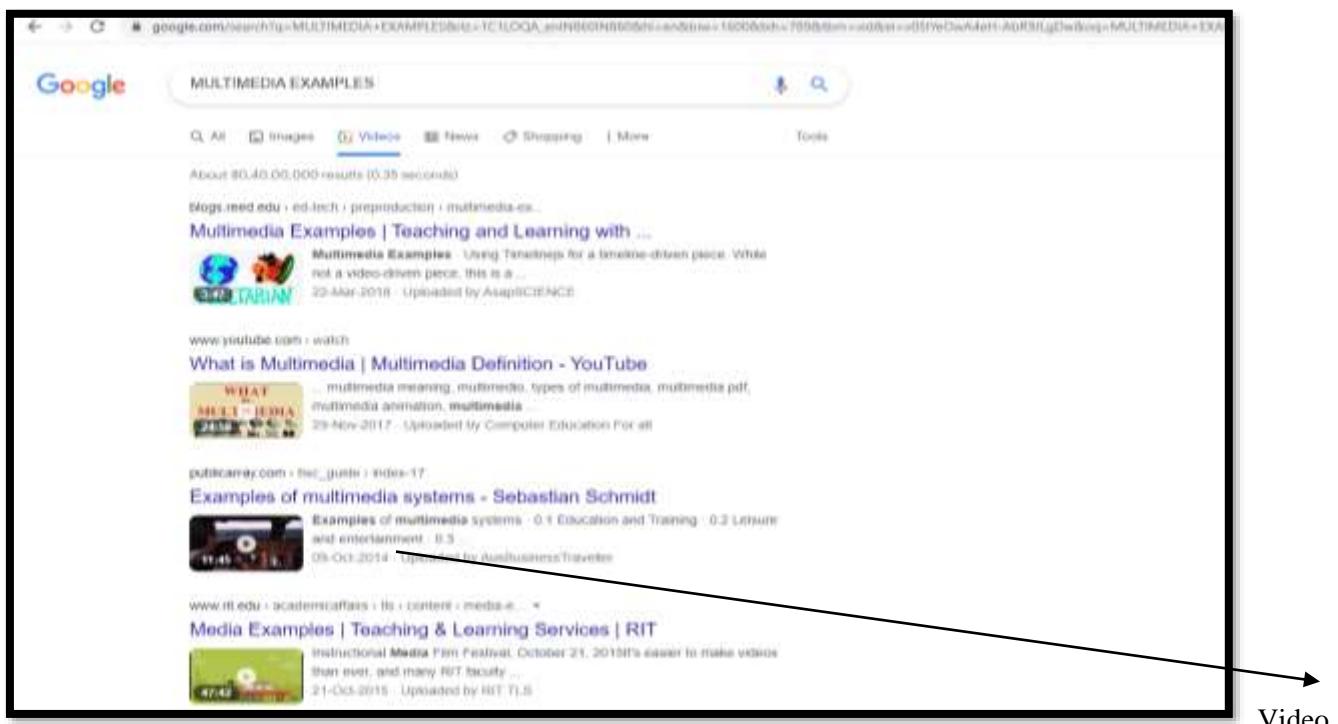
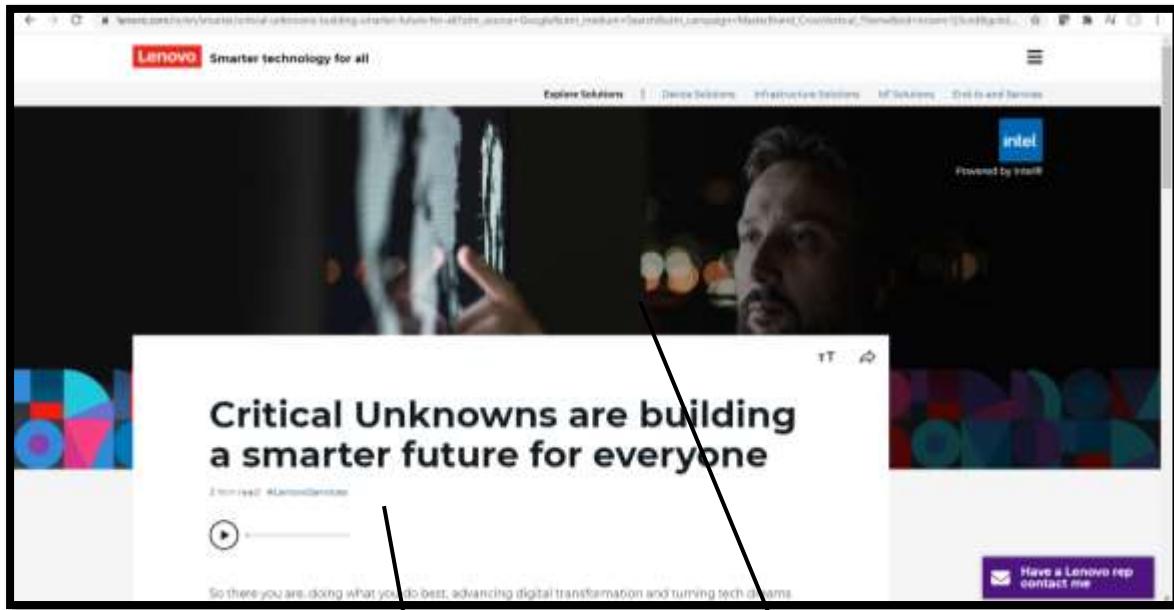


Step 4: Read each and every slide until you find building blocks name in ppt. First slide of downloaded ppt is depicted below.

Step 5: Go through further slides and find building blocks of multimedia.

- ❖ I found multimedia building blocks in this ppt. Multimedia building blocks are: Text, Audio, Video, Animation and Graphic.





Video

Multimedia Building Blocks

Text:

- Text in Multimedia is a key component of any multimedia product.
- Text is the most widely used and flexible means of presenting information
- On screen and conveying ideas.
- Multimedia products depend on text for various reasons:
 - Page title,
 - Content of the information,
 - Label and Instruction.
- Text/Word must be chosen carefully
- Precise and accurate meaning to describe what you mean.
- Words appear in titles, menus and navigational aids.

Audio:

- A multimedia application may require the use of speech, music and sound effects. These are called audio or sound element of multimedia.
- Speech is also a perfect way for teaching.
- Audio is of analog and digital types. Analog audio or sound refers to the original sound signals.
- Computer stores the sound in digital form. Therefore, the sound used in Multimedia application is digital audio.

Images:

Images whether represented analog or digital form, plays a vital role in a Multimedia. It is expressed in the form of still picture, painting or a photograph taken through a digital camera.

Bitmapped/Raster Image:

A simple matrix or grid of dots with color information. I.e. an array of color dots that when looked at from distance forms an image. The smallest element of a bitmap is a pixel (Picture element).

Vector Image:

Image data are stored in the form of data points that describe the collection of lines, curves, circle, ellipses, text, polygon and other shape. The characteristic of each shape such as line type and fill/shading specification. The information of the images can be stored as coordinates.

Animation

- Animation is a process of making a static image look like it is moving.
- An animation is just a continuous series of still images that are displayed in a sequence.
- The animation can be used effectively for attracting attention.
- Animation also makes a presentation light and attractive.
- Animation is very popular in multimedia application.

Video

- The term video refers to the moving picture, accompanied by sound such as a picture in television.
- Video element of multimedia application gives a lot of information in small duration of time.
- Digital video is useful in multimedia application for showing real life objects.
- Video have highest performance demand on the computer memory and on the bandwidth if placed on the internet.
- Digital video files can be stored like any other files in the computer and the quality of the video can still be maintained.
- The digital video files can be transferred within a computer network.
- The digital video clips can be edited easily.

EXPERIMENT NO.2

i) Identify the importance of Resolution, Size and compression of Images.

Resolution: Image resolution is typically described in PPI (pixels per inch), which refers to how many pixels are displayed per inch of an image.

Higher resolutions mean that there are more pixels per inch (PPI), resulting in more pixel information and creating a high-quality, crisp image.

Images with lower resolutions have fewer pixels, and if those few pixels are too large and creating a low-quality image.

Size: Image Size is the term given to describe the height and width of an image in pixels.

Usually, these values are given in pixels and the following format:

1024x981

In this example for the image size, it tells us the following about the image:

- The image width is 1024 pixels
- The image height is 981 pixels

Compression: The reduction of the number of bits used to define an image. Image compression is a process which on implementation gives output which is often smaller in size but looks similar to the original.

Lossless compression:

It is a technique used to reduce the file size of an image while maintaining its quality like before. It is similar to a DSLR camera that offers the option to save photos in different formats, like JPEG or RAW.

JPEG files involve less space and will not fill up your hard drive fast, but during the conversion process, you may lose out some data. Files in RAW format have no compression and are excellent if you are a professional user. A RAW image format is an unprocessed image that contains raw image information.

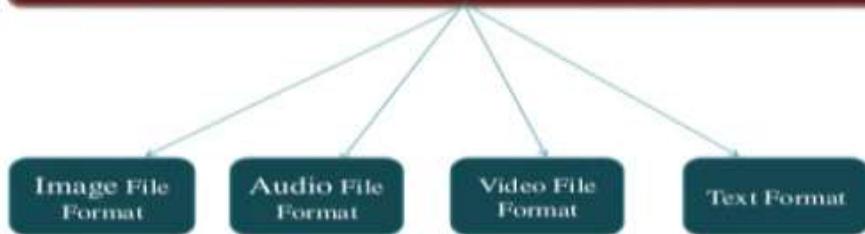
Lossy Compression:

The lossy compression technique is another way of image compression that involves cutting some part of the image to create even smaller file sizes.

One way to practice the lossy compression technique is reducing the color space of the image to the most common colors. It is often practiced in GIF and a few times in PNG images to create files of much smaller sizes.

ii) Classify file formats of various Multimedia files

Types of File Formatting



Text Formats

Text files	Graphical icon	Full name
*.doc		Microsoft Word Document
*.txt		Plain Text File
*.rtf		Rich Text Format File
*.odt		OpenDocument Text Document

RTF: Rich Text Format is the primary file format introduced in 1987 by Microsoft with the specification of their published products and for cross-platform documents interchange.

Plain text: Plain text files can be opened, read, and edited with most text editors. commonly used are Notepad (Windows). Other computer programs are also capable of reading and importing plain text. Plain text is the original and popular way of conveying an e-mail.

Image Formats



TIFF (Tagged Image File Format): This format is common in desktop publishing world (high quality output). Recent versions of TIFF allow image compression, and the format is comfortable for moving large files between computers.

BMP (Bitmap): Initially this format is in use with Windows 3.1. It is quite large and uncompressed and hence BMP is used for the high-resolution or large images.

GIF (Graphics Interchange Format): GIF is a compressed image format. Most of the computer color images and backgrounds are GIF files. This file format is best suitable for graphics that uses only limited colors.

JPEG (Joint Photographic Experts Group): JPEG was designed to attain maximum image compression. It uses lossy compression technique. It works good with photographs, but functions less on lettering, simple cartoons.

PNG (Portable Network Graphics): An extensible file format for the portable and well compressed storage of raster images. PNG acts as replacement for GIF and also replaces multiple common uses of TIFF. PNG works good with online viewing applications like worldwide web.

Digital Audio File Formats



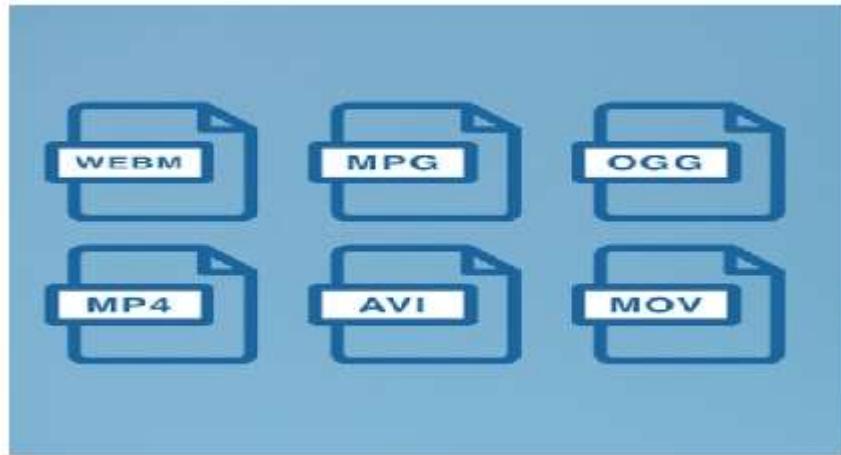
WAV (Waveform Audio File Format): It is the most popular audio file format in windows for storing uncompressed sound files. In order to attain the reduced file size it can also be converted to other file formats like MP3.

MP3 (MPEG Layer-3 Format): MPEG Layer-3 format is the most popular format for storing and downloading music. The MP3 files are roughly compressed to one-tenth the size of an equivalent WAV file.

AIFF (Audio Interchange File Format): A standard audio file format used by Apple which is like a WAV file for the Mac.

RA (Real Audio Format): Real Audio format is designed for streaming audio over the Internet. The digital audio resources are usually stored as a computer file in computer's hard drive or CD/DVD.

Digital Video File Formats



AVI (Audio/Video Interleave): AVI is the video file format for Windows. Here sound and picture elements are stored in alternate interleaved chunks in the file.

MPEG (Moving Picture Experts Group): MPEG is a standard for generating digital video and audio compression under the International Standards Organization (ISO) by the group of people. The MPEG is the standards for digital video and audio compression.

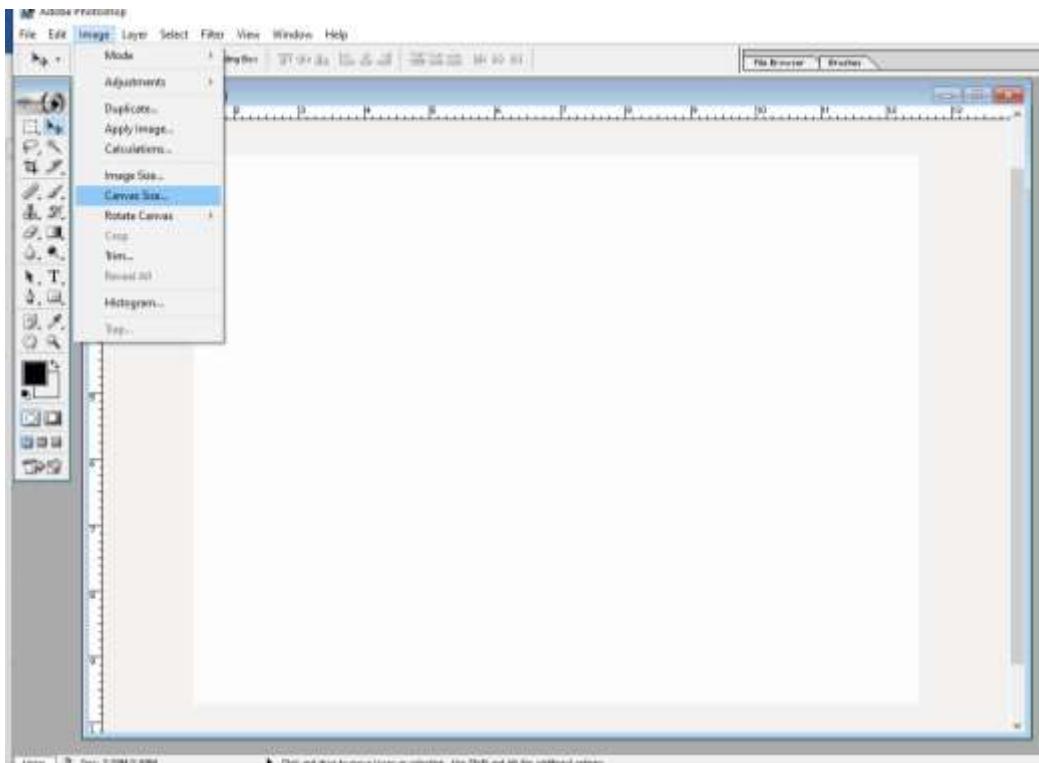
EXPERIMENT NO - 03

3 i) Practice setting the canvas on the workspace for different requirements.

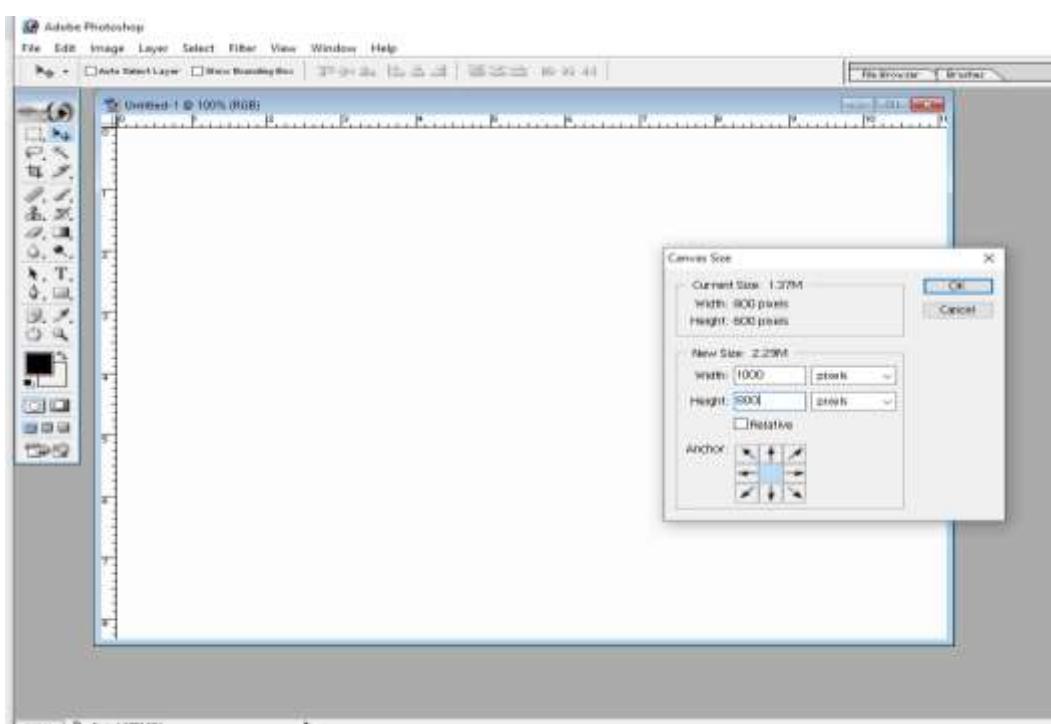
STEP1: Go to START → All Programs → Adobe Photoshop 7.0

STEP2: Go to File → New to create a new file and select preset size as 800*600.

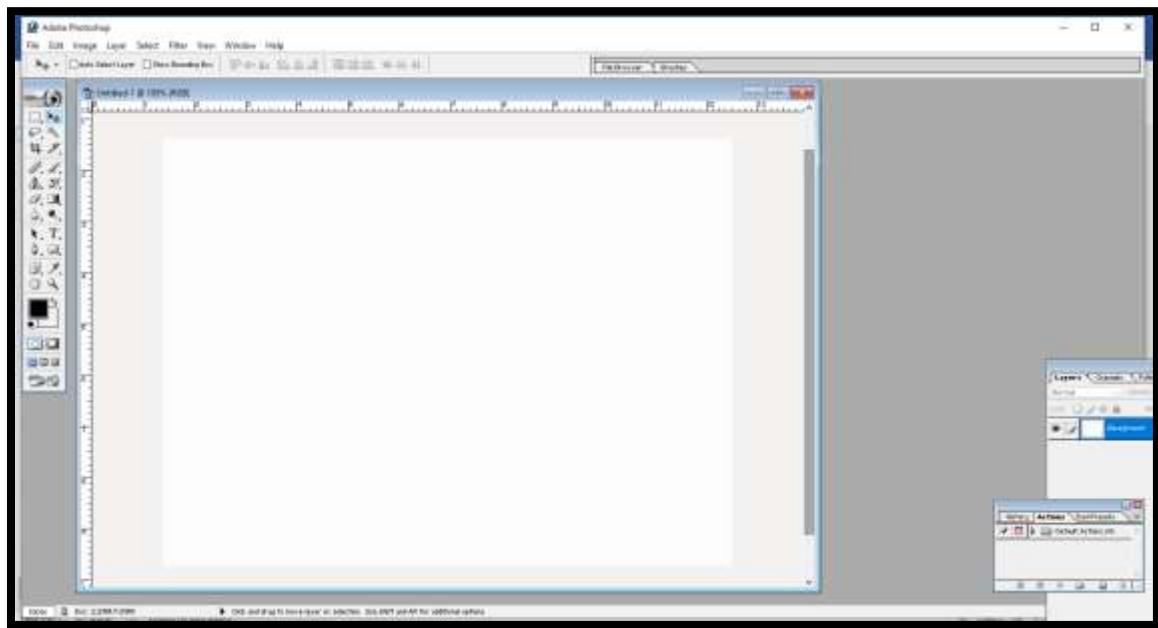
STEP3: Go to Image-> Canvas Size.



STEP 4: Select pixels and type 1000 for width and 800 for height.



STEP 5: Observe the Canvas.

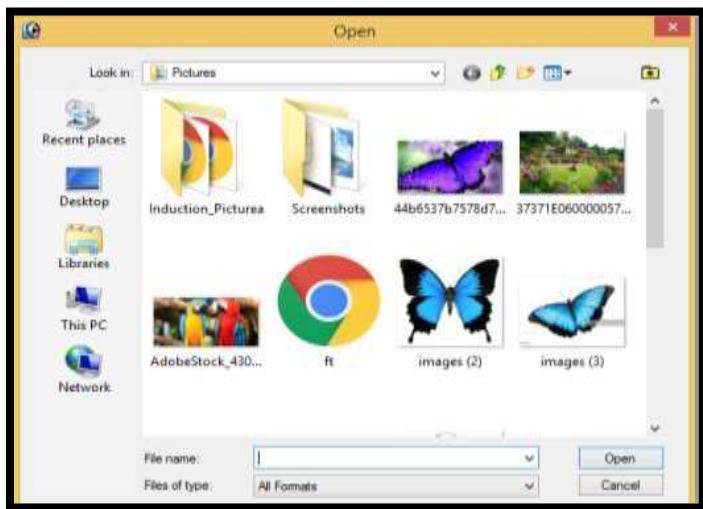


3. ii) Import an image from the browser / Picture folder and place it on the workspace.

STEP 1: Go to START → All Programs → Adobe Photoshop 7.0

STEP 2: Go to File → New to create a new file and select preset size as 800*600.

STEP 3: To insert picture Go to File → Open → select the picture and then click open. Go to Select → All → to copy Picture and then go to Edit → Copy, now close the picture. Go to Edit → Paste will paste the picture on Photoshop document.



3 iii) Click and drag the image on the work space.

Step 1. Go to adobe photoshop 7.0 .

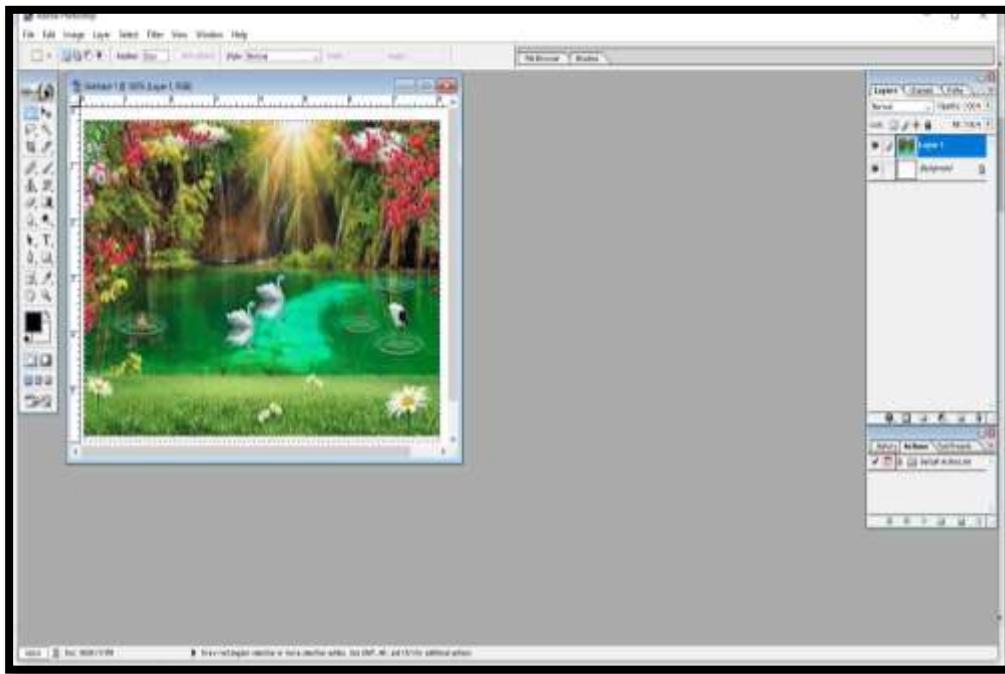
Step 2. Go to file menu. Click on New then new file will be opened.

Step 3. Give name to that file. And make proper settings for canvas.

Step 4. Go to file browser and select picture and drag the image on canvas.

Step 5. Use **Rectangular Marquee tool** to select the image. **Use MOVE Tool** to place the image on workspace.

STEP 4: Save the File with a suitable name.



iv) Scale the image up and down.

Step 1. Go to adobe Photoshop 7.0 .

Step 2. Go to file menu. Click on New then new file will be opened.

Step 3. Give name to that file. And make proper settings for canvas.

Step 4. Go to file browser and select picture and drag the image on canvas.

Step 5. Use **Rectangular Marquee tool** to select the image. **Use MOVE Tool** to place the image on workspace and also scale up and down.

Step 6. Go to **Edit menu and use Transform tool 1** and make appropriate changes.

OR

Select the picture, right click on the picture select Free Transform tool (Ctrl+T) and resize the picture.

EXPERIMENT NO - 04

Design a Greeting card. Use different Layers for image and text.

STEP1: Go to START → All Programs → Adobe Photoshop 7.0

STEP2: Go to File → New to create a new file and select preset size as 800*600

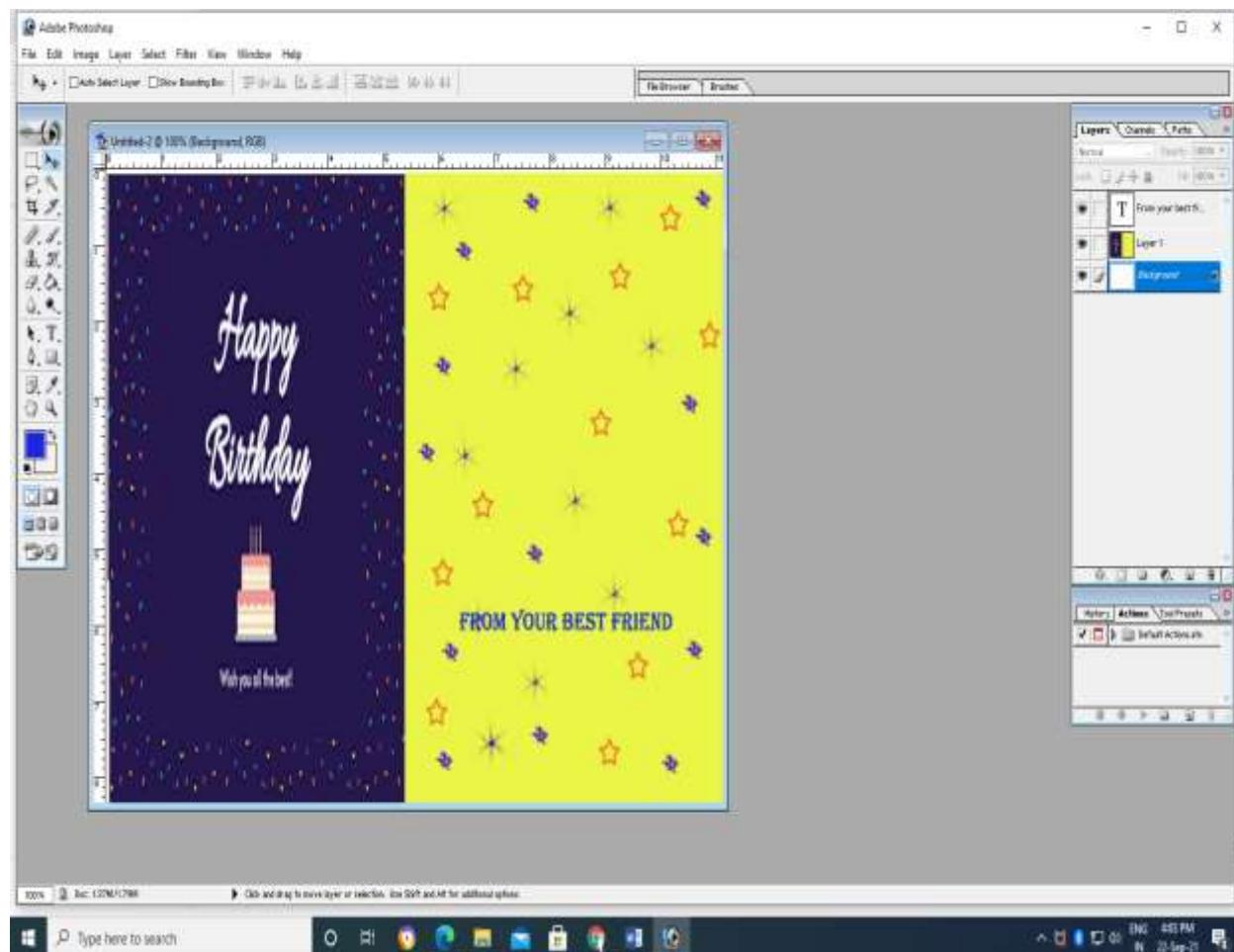
STEP3: Select the Rectangle Tool from Tool bar and draw half of the work area. Color the rectangle by using required color using paint bucket tool.

STEP4: Repeat STEP3 for the remaining half of the work area.

STEP5: Select the Type Tool and type the text in the rectangle by selecting required font color and style.

STEP6: To insert picture Go to File → Open → select the picture and then click open. Go to Select → All → to copy Picture and then go to Edit → Copy, now close the picture. Go to Edit → Paste will paste the picture on Photoshop document. Select move tool from the toolbar and drag the picture to the other half of the workspace. If the image is large, then resize it using Rectangular marquee tool from the toolbar. To select the picture, right click on the picture select Free Transform tool and resize the picture.

STEP7: Save the File with a suitable name.

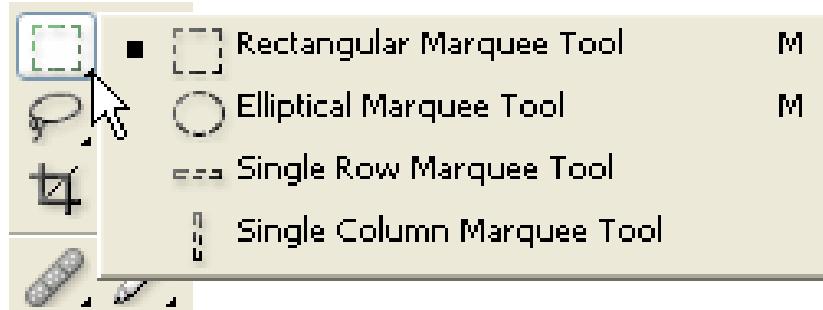


EXPERIMENT NO - 05

Practice using different Selection tools.

Adobe Photoshop also offers a number of selection tools: Quick Mask, Rectangular marquee, Elliptical marquee, Lasso, Polygonal Lasso, Magnetic Lasso, Magic Wand.

The Rectangular marquee and Elliptical marquee tools are hidden in the Toolbox under one and the same icon. The icon on the Toolbox displays the last tool used. To open the floating menu right-click on the arrow in the lower right corner of the displayed icon.



- **Rectangular marquee**

This tool selects rectangular and square areas.

To select a rectangular area, you should:

Step 1. Activate the Rectangular marquee tool by clicking on the icon , or (if the Rectangular marquee was not the last tool applied) select it from the floating window.

Step 2. Bring the mouse cursor to the point of the image where the corner of an imaginary rectangle should be, and press the left mouse button.

Step 3. Keeping the left button pressed, move the cursor diagonally to the opposite corner and release the button.

- **Elliptical marquee**

This tool selects ellipses and circles.

The Lasso, Polygonal Lasso, Magnetic Lasso tools are hidden in the Toolbox under one and the same icon. The icon on the Toolbox displays the last tool selected. To open the floating menu right-click on the arrow in the lower right corner of the displayed icon.



- **Lasso**

The tool allows creating freehand selections.

To make a freehand selection you should:

Step 1. Select the Lasso tool from the Toolbox by left-clicking on the icon or (if Lasso was not the last tool applied) select it from the floating window.

Step 2. Bring the mouse cursor to the object that must be selected and outline it keeping the left button pressed.

- **Polygonal Lasso**

The tool makes freehand selections, but its contour is made up of straight segments.

- **Magnetic Lasso**

This tool makes a freehand selection.

- **Magic Wand**

This tool selects a consistently colored area.

EXPERIMENT NO - 06

Practice using different painting tools

The main painting tools in Adobe Photoshop are the Pencil and the Brush. The Pencil draws free form lines with a hard edge, and the Brush - draws lines with a softer edge.



1. Brush Tool:

This tool is used to paint any image, first of all a selected color and size. There are various options of the Brush Tools sizes and shapes that can be found in the options bar. It is also used on layer masks for showing or hiding parts of the image.

- **Pencil Tool:**

The Pencil tool is limited to hard brush tips of any size or shape, and it creates freeform lines using the current foreground color.

The major difference between the Pencil and Brush Tools is that the Pencil tool can draw only a hard-edged line. The pencil tool is a part of the Brush Tool.

The Pencil Tool has a unique feature named Auto Erase that can be used to switch between the Current Foreground and Background colors.

- **Color Replacement Tool:**

This tool can be used to change the color, saturation, hue and luminance values. In this tool we apply changes manually with a brush. This tool can also be used to specify mode, sampling, limits and tolerance parameters for a tool. It is different from the Brush Tool since it preserves the original texture when the color is changed.

2. History Brush Tool:

- This tool works in a similar way as the Brush Tool, except the information that it paints with is from the original state of your image.

If you go to "Window" > "History" then you will see the History Palette. The History Brush Tool paints with the information from whatever History State is selected.

- **Art History Brush:**

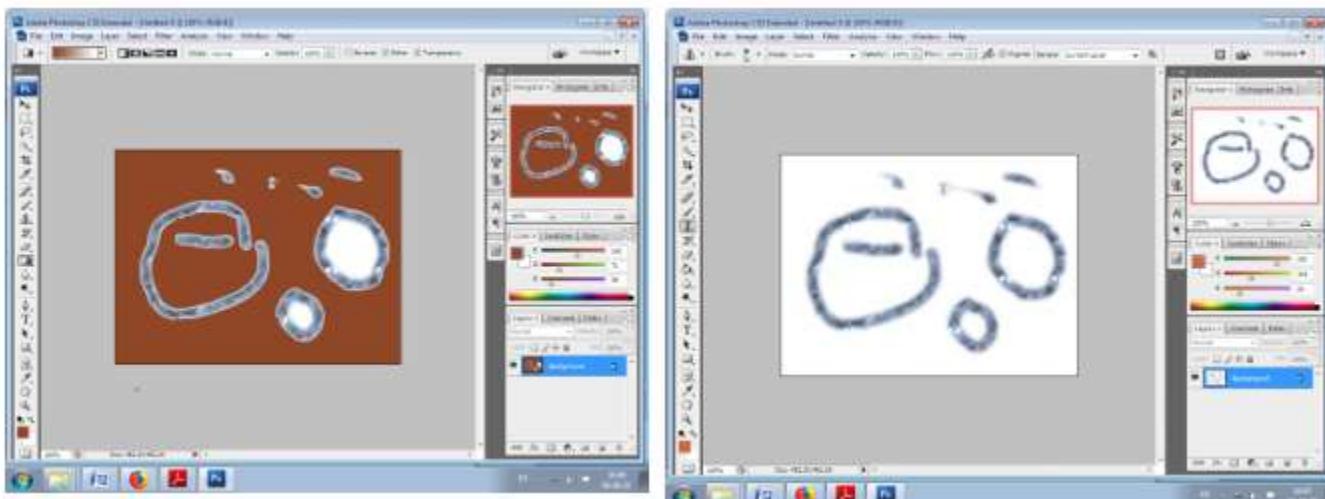
This tool can be used to apply paint styles to your image using a history state. This tool is available under the History Brush Tool. There are several options available for this tool that will affect how the pixels will look, the opacity, paint stroke style, fidelity, area, and tolerance. This tool will probably not fool anyone into thinking you have created a watercolor in the traditional way, but it's fun to use and can create nice images.

3. Gradient Tool:

You can use this tool to make gradient colors. It creates a blending of your foreground color and background color when you click and drag it.

- **Paint Bucket Tool:** This tool fills the area with the Active Foreground Color and Pattern. You can select two options in this tool but before that you must click the Fill List Arrow. The two options are as follows:

- Foreground: It can be used to fill the selected area with the current foreground color.
- Pattern: It can be used to fill the area with a pattern. The Paint Bucket Tool can fill areas with a selected foreground and pattern. The fill area can be controlled by the shift in brightness of image pixels.



EXPERIMENT NO - 07

7. Restore old monochrome photos to new one. Apply suitable colors.

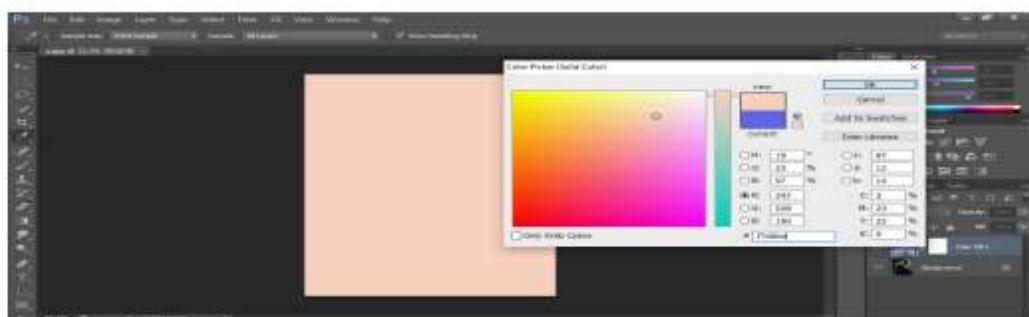
Step 1: Open the image in Photoshop.



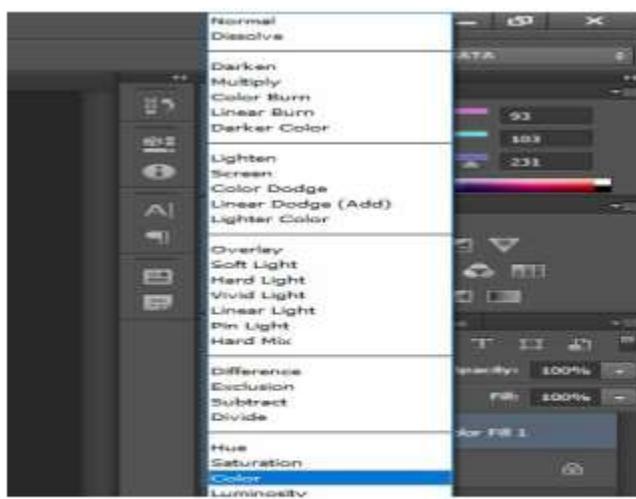
Step 2: Click the Create New Fill/Adjustment layer button in the layers panel and select Solid Color.



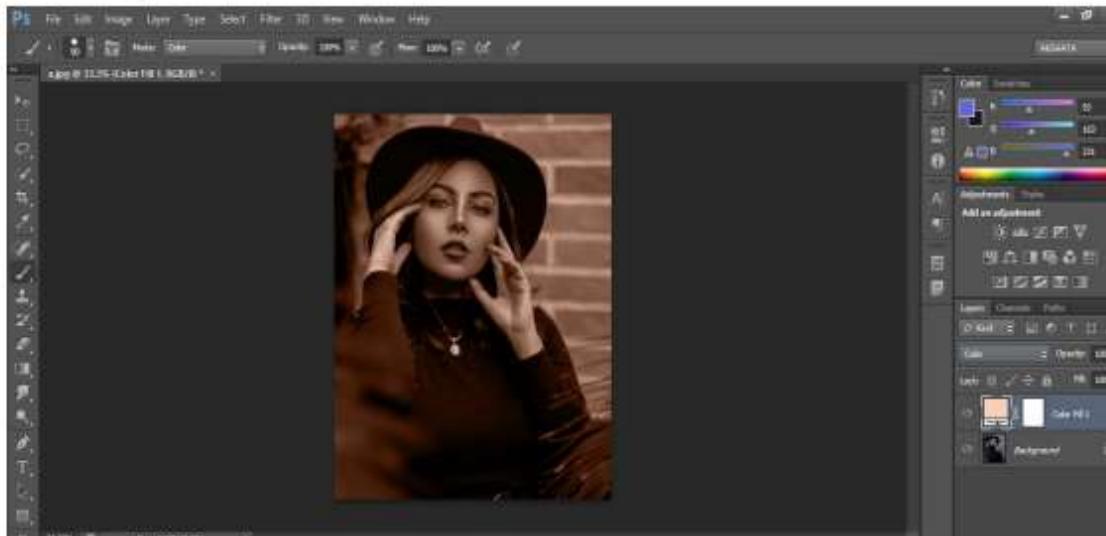
Step 3: Select new color that you want to apply to the object and Click OK. (For Skin color). Here I choose "#f7d0be" color.



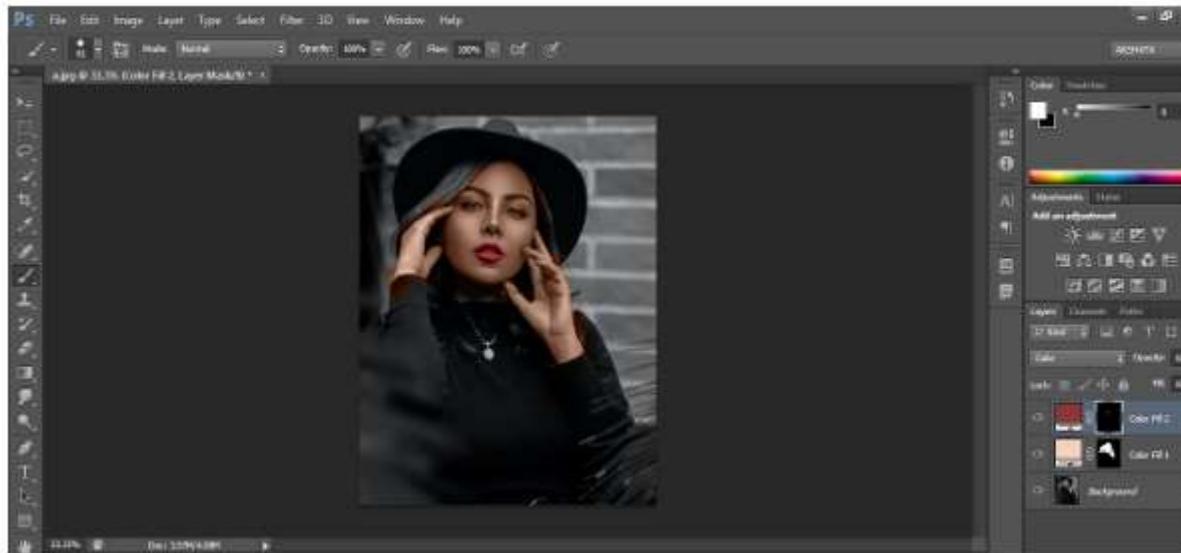
Step 4: Change the blending mode to color.



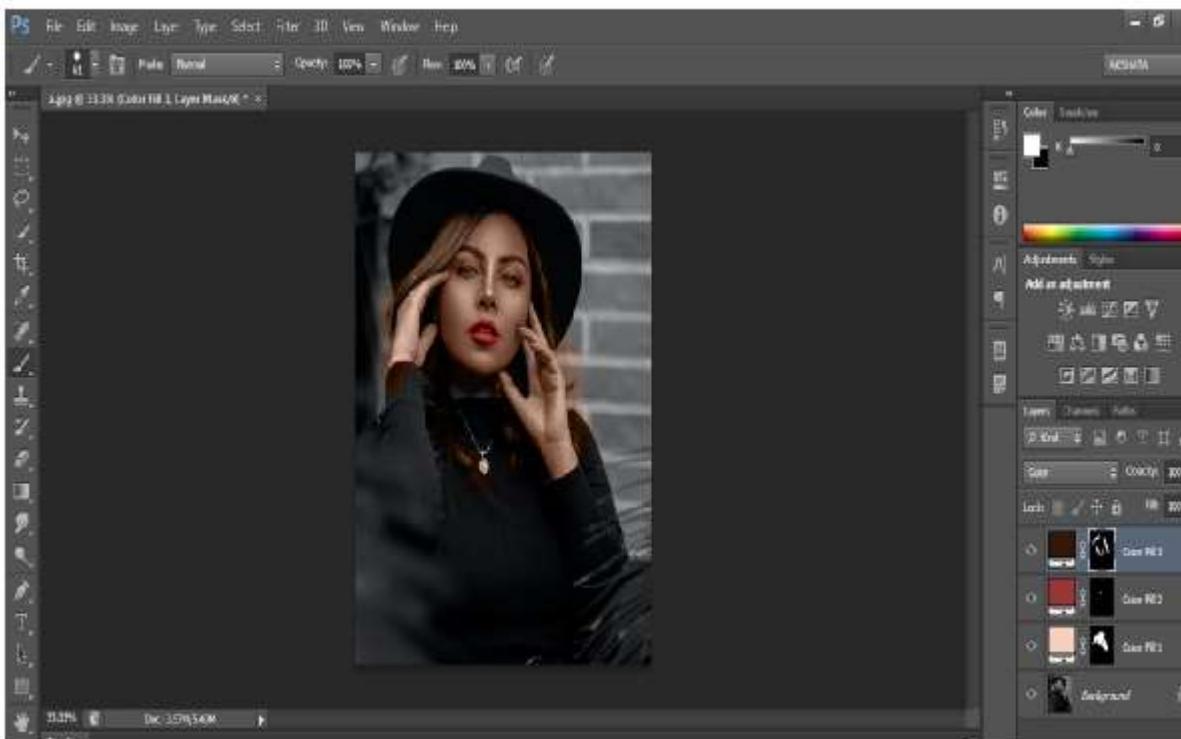
Step 5: Select the mask and press **ctrl+i** (for invert the mask).Select the Brush tool from the tool bar and drag over image(skin) and make sure foreground color is white and background color is black. Set brush size, opacity and flow. Start painting on skin. For remove the paint from area select Black color.



Step 6: Repeat step 3 (For lip color) and 4. With the help of brush tool, you can paint on lips wrt chosen color. Here I choose "#8b3737" color.



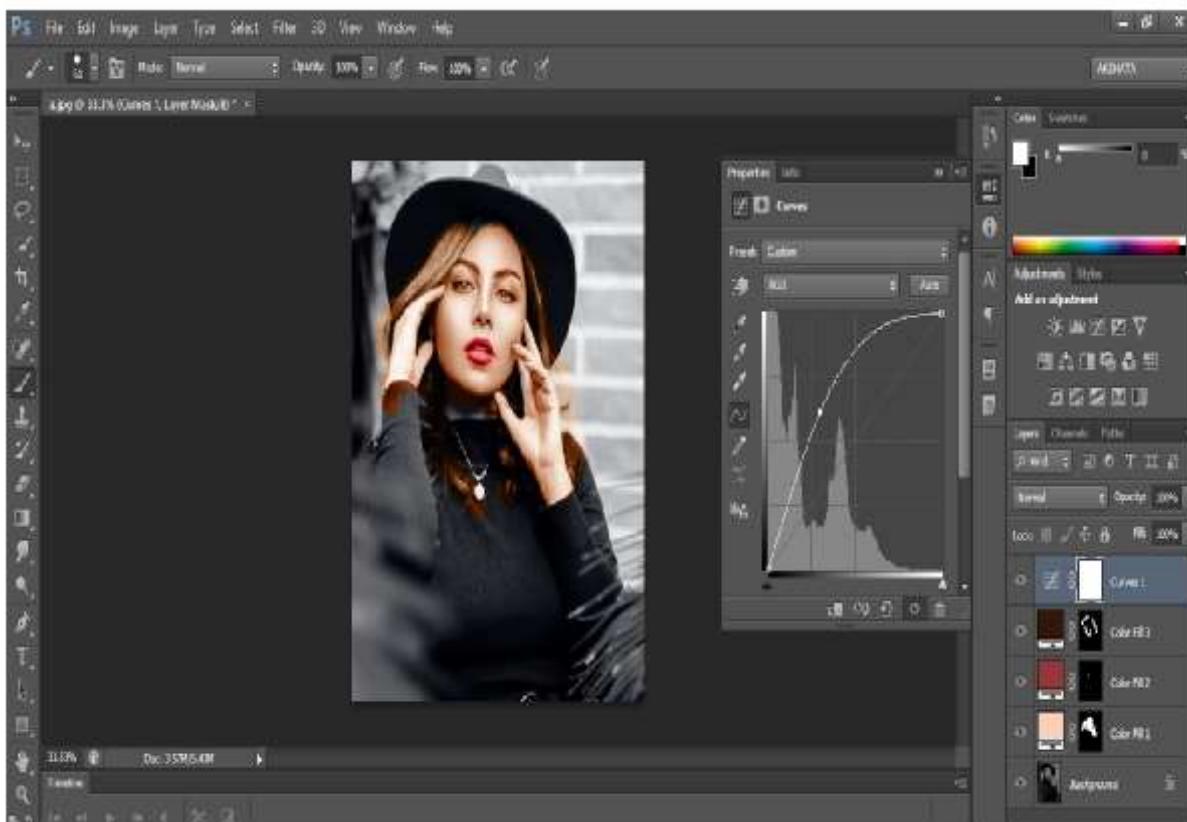
Step 7: Repeat step 3 (For hair color) and 4. With the help of brush tool, you can paint on hairs wrt chosen color. Here I choose "#341807" color.



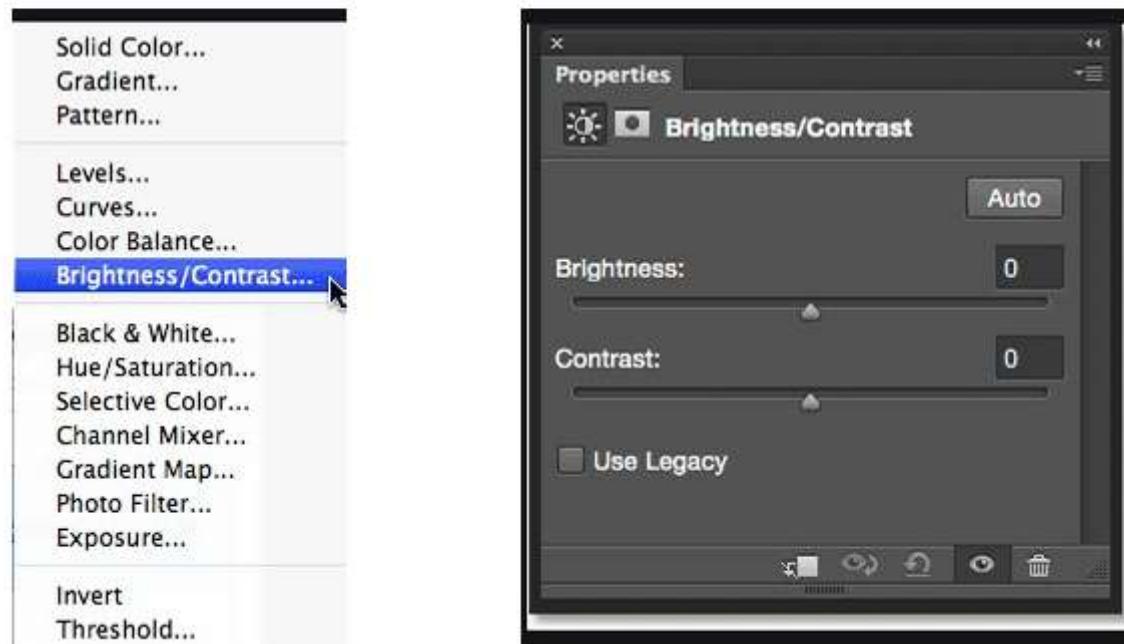
Step 8: Repeat step 3 and 4. Now brighten the "Eyes" using curves. Click the Create New Fill/Adjustment layer button in the layers panel and Add curves adjustment layer.



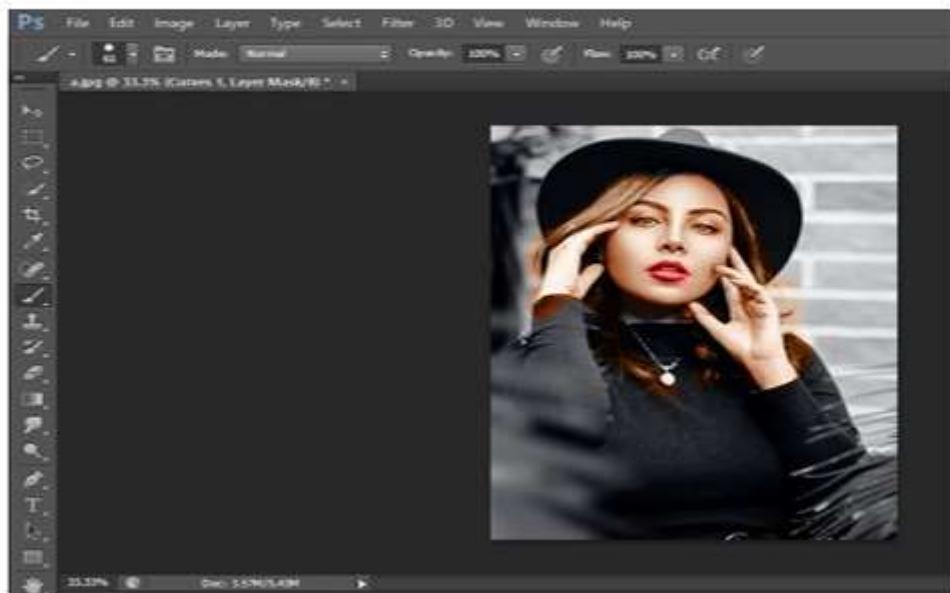
Step 9: Click anywhere on the line in the properties panel to create new point, then click and drag the point to adjust the curve. Continue to adjust the points until you are satisfied with the result.



Step 10: Click the Create New Fill/Adjustment layer button in the layers panel and choose Brightness/contrast option. Now add “contrast” to image. I set Contrast as “50” and closed properties panel.



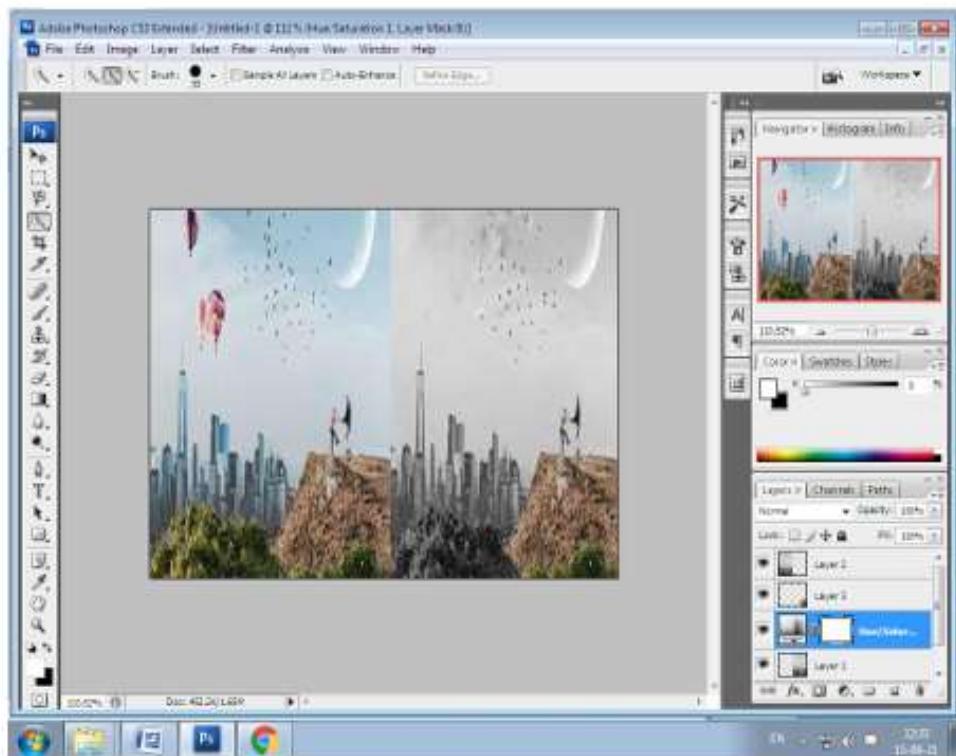
Step 11: You will get Result. You successfully restored monochromatic images into new one and applied different colors.



Experiment - 08

Import a similar picture from the internet. Erase unwanted parts in the image, retouch old photos into new. Color partially.

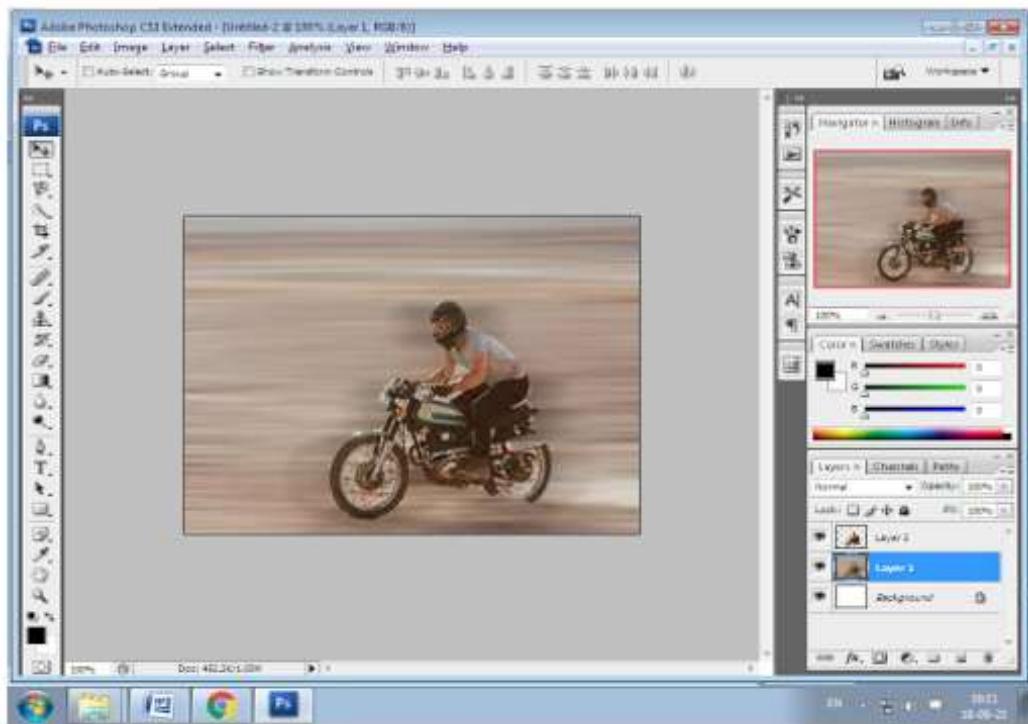
1. Open a image in Photoshop.
2. Crop, straighten, or rotate the image.
3. Use spot healing brush to clone areas from an image and blend the pixels from the sampled area seamlessly with the target area. Set the sampling point by positioning the pointer in any open image and **Alt**.
4. By using Clone Stamp tool **paint one part of an image over another part of the same image** or over another part of any open document that has the same color mode. You can also paint part of one layer over another layer. The Clone Stamp tool is useful for duplicating objects or removing a defect in an image. Set the sampling point by positioning the pointer in any open image and Alt-clicking.
5. Use selection tool to select the portion of the image → Ctr+J (for duplicating the selected portion of the image).
6. Select original layer → click on create new fill/adjustment style In Layer Palette → Hue/Saturation → Set Saturation level.
7. Save the newly restored image.



Experiment - 09

Import a picture of a stationary motorcyclist. Apply suitable masking filters and background. The image should appear as though the motorcyclist is speeding fast.

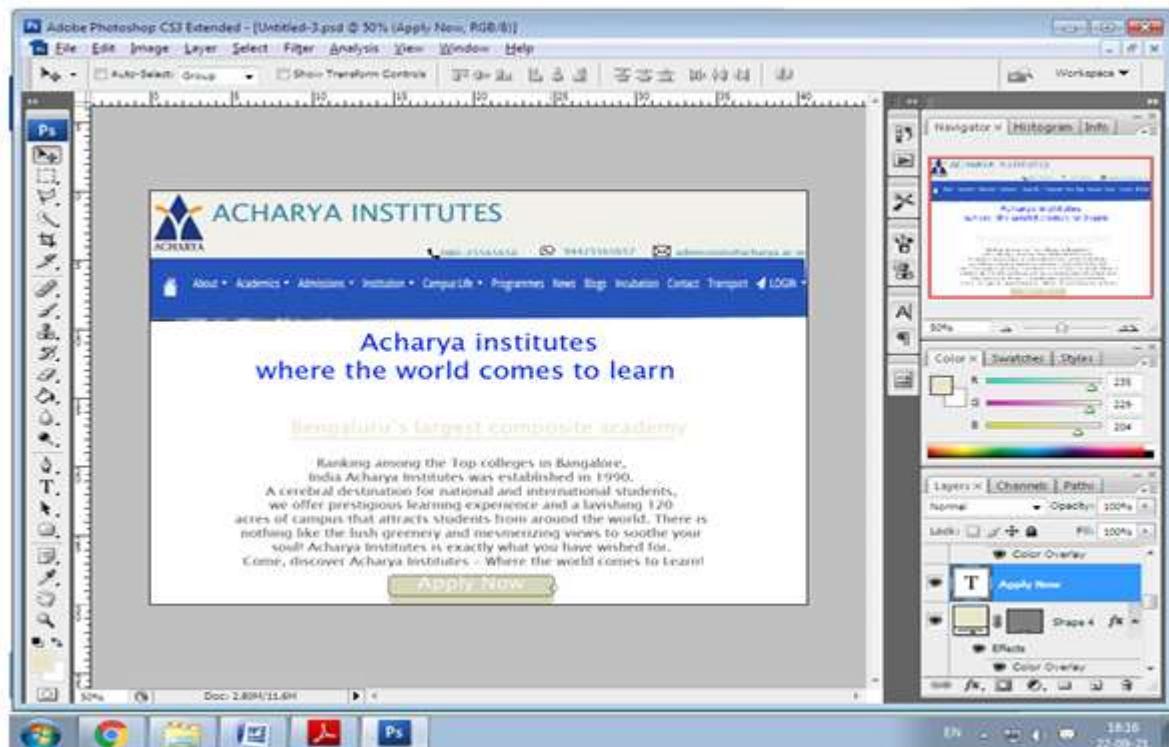
1. Open a stationary motorcyclist image with background in Photoshop.
2. Use **Magnetic Lasso Tool** to select the stationary motorcyclist-> Right click on layer ->Select **Layer via Copy**.
3. Select **Filter->Blur->Motion Blur** and Set the angle to 2 and distance 999 pixels.
4. Duplicate the layer 4 times using **Ctrl+J** or right click on the Layer and select Duplicate layer.
5. Merge Down the duplicate layer using **Layers-> Merge Down**.
6. Select Add layer mask to the merged layer.
7. Select **Gradient tool** -> Select the B/W pattern
8. Now holding down the gradient point drag on the image so that it appears as if the bike is speeding fast.
9. Save the image.



Experiment - 10

Create a professional web layout. Use different layers, textures, colors, text, blending features and filter masking.

1. Use rectangle tool to highlight the header of web layout → apply suitable color by clicking on color overlay at layer palette.
2. Open a logo of your institute in Photoshop.
3. Crop, straighten, or rotate the image and place at proper position.
4. Add required contact information with respective symbol like phone number, what's app number etc..
5. To look attractive add a layer style, layer palette → gradient overlay/pattern overlay.
6. Add dashboard content of the page with suitable font style, color and alignment using text tool.
7. To highlight the heading text, apply blending options → drop shadow, inner shadow and bevel and emboss → contour, texture.
8. Apply filter mask for text or image to look attractive, filter → blur/smart blur/sharp blur which you desire.
9. Save the newly restored image.



Experiment - 11

Create an innovative logo for your Institute considering all the features of your Institute.

STEP1: Go to START → All Programs → Adobe Photoshop 7.0

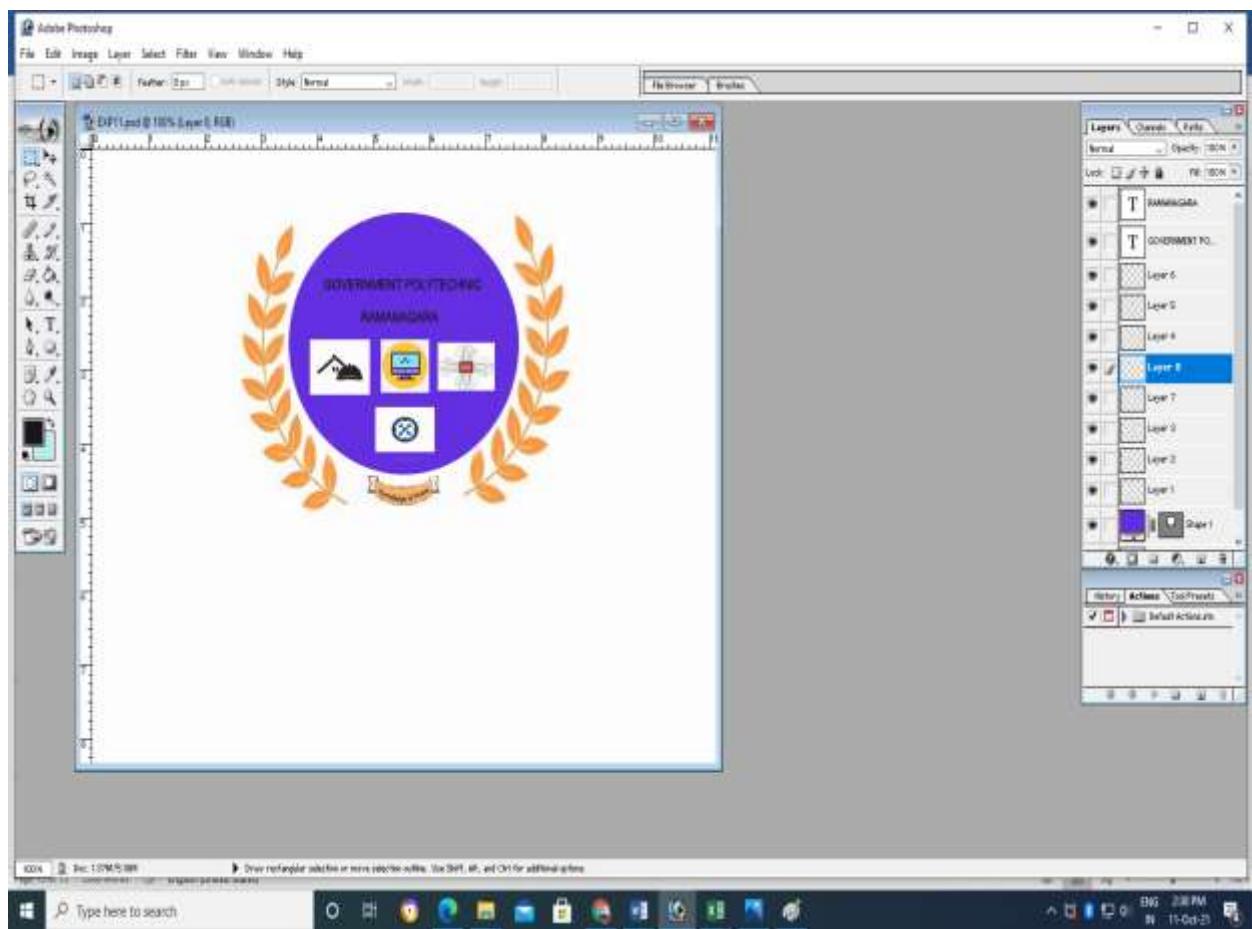
STEP2: Go to File → New to create a new file and select preset size as 800*600

STEP3: Select the Ellipse Tool from Tool bar and draw on the work area. Color the ellipse by using required color.

STEP4: Select the Type Tool and type the text in the ellipse by selecting required font color and style.

STEP5: Go to File->Open and open a leaf picture. Now select it and paste into working document and adjust the image by using free transform tool and move tool.

STEP6: Save the File with a suitable name.

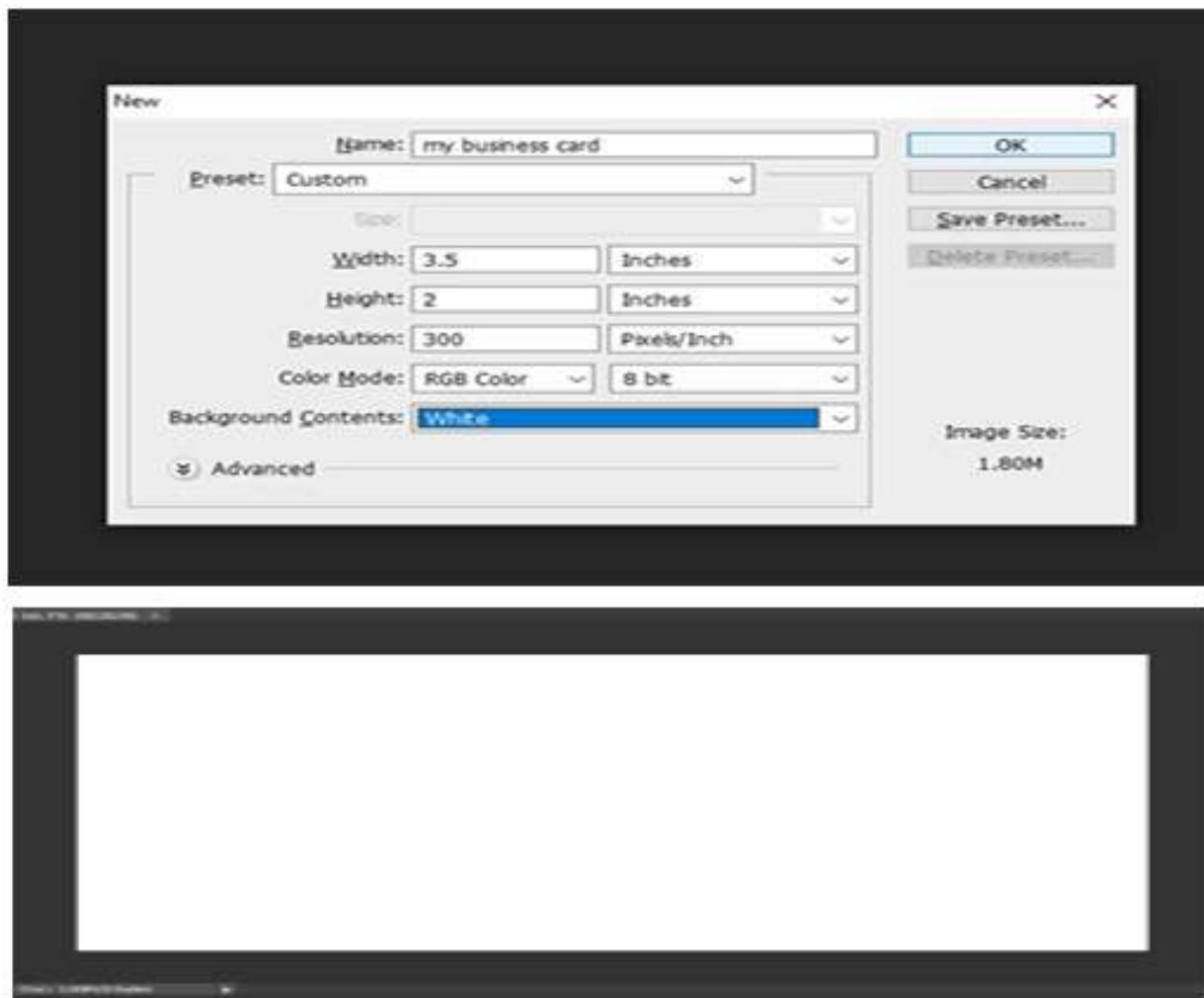


Experiment - 12

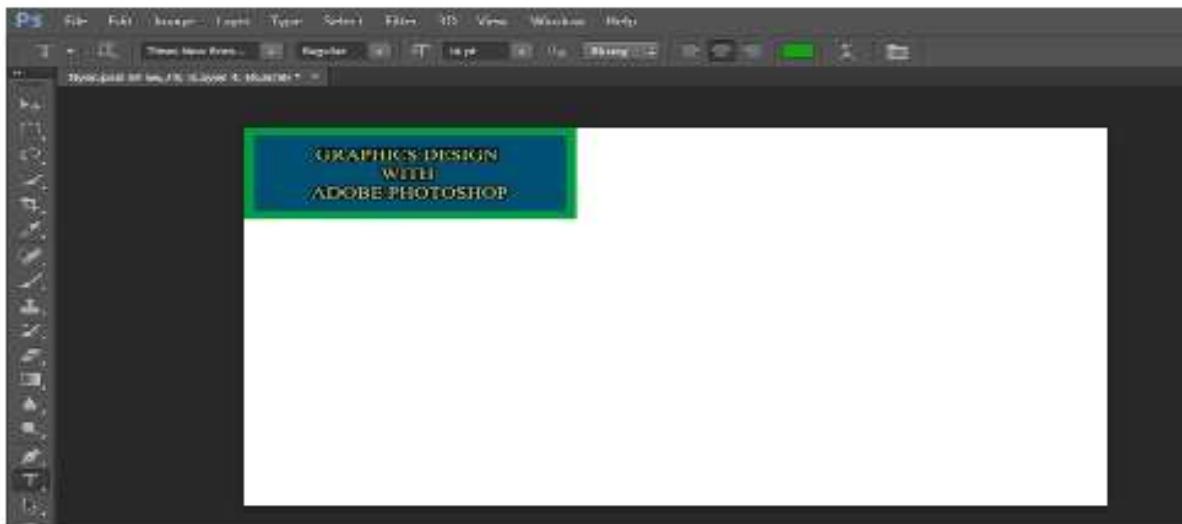
Design a flyer for a short term course that is supposed to commence from 3 weeks ahead from the current date.

Step 1: Choose File->New.

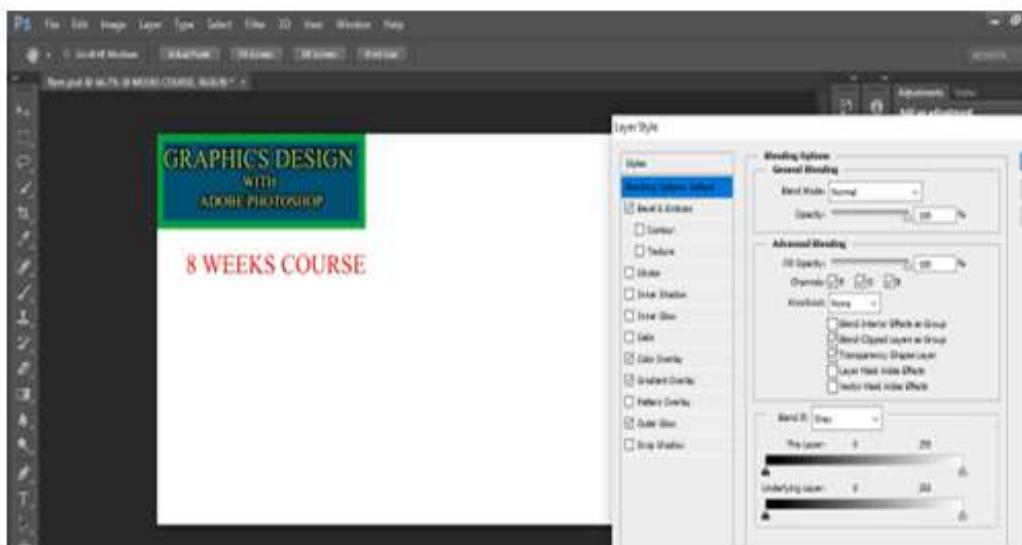
Step 2: New dialog box opens and select attributes for the new file. Click OK after setting the attributes to create the new document.



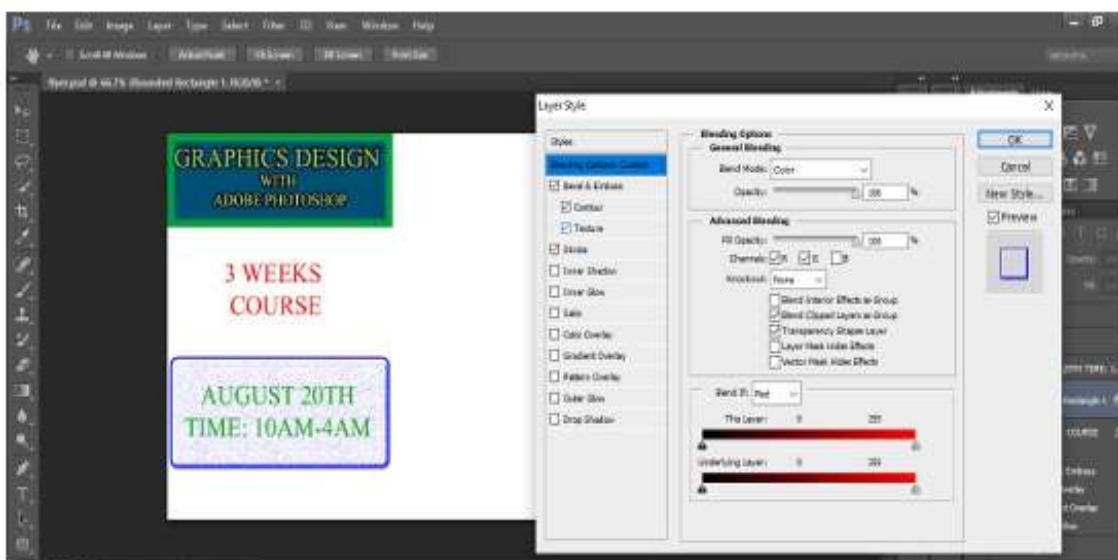
Step 3: select rectangular tool from tool bar and apply fill, stroke with different color, then write text within drawn box.



Step 4: select Text from tool box and write a text in new page. Apply blending modes to look more stylish.



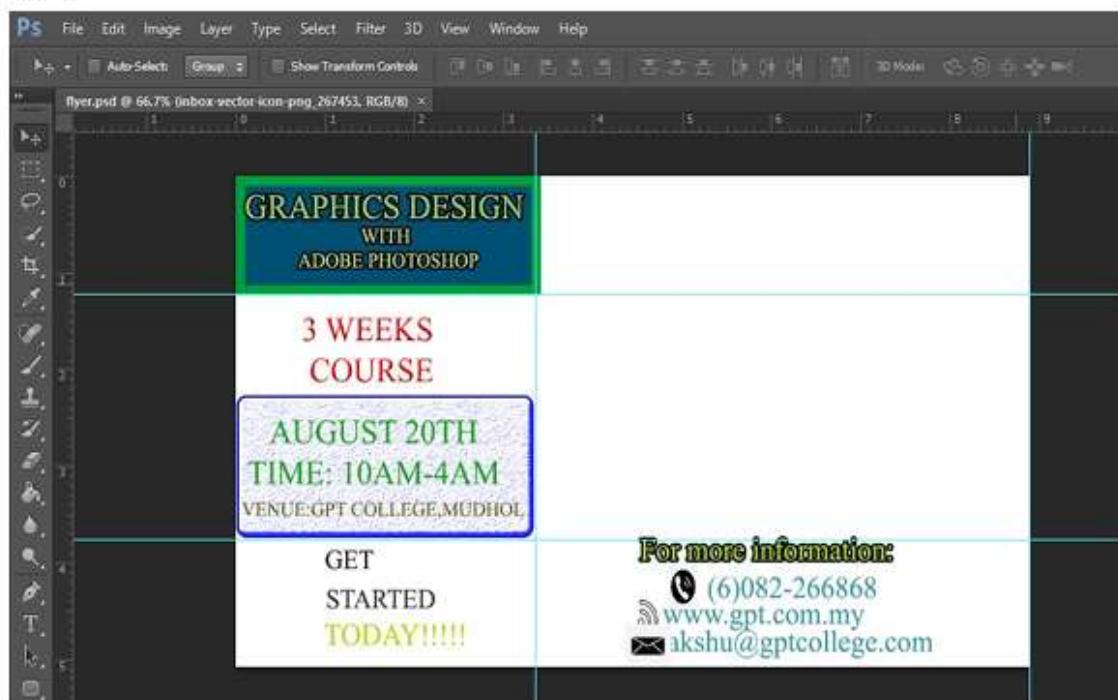
Step 5: Repeat the steps 3&4.



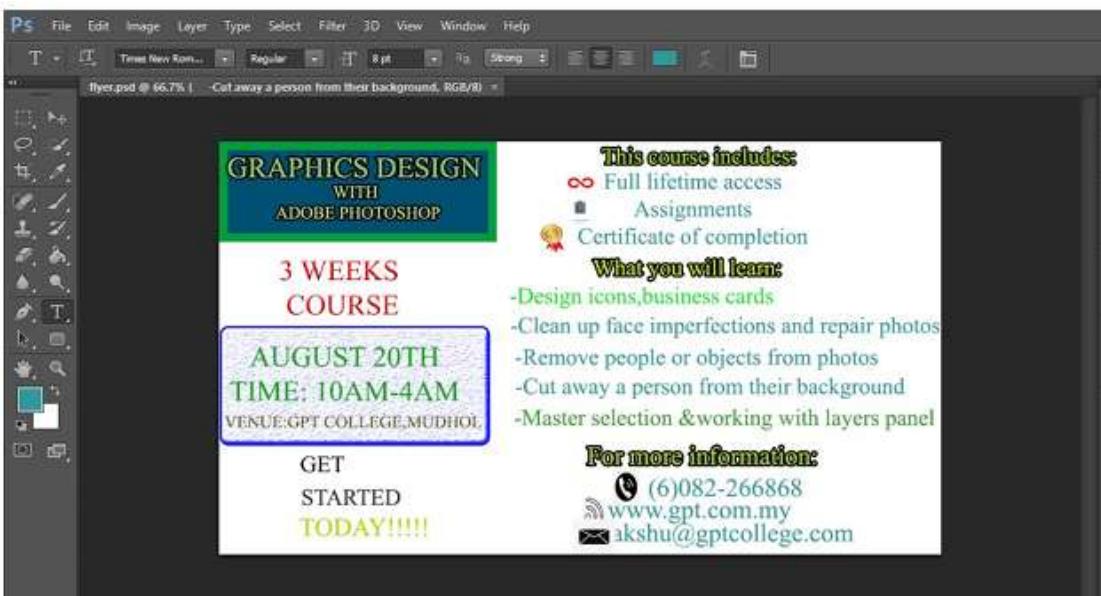
Step 6: make 3 section right side using Ruler which is available in software.



Step 7: choose Horizontal text from tool bar and write text in newly created page and apply suitable colors to written text.



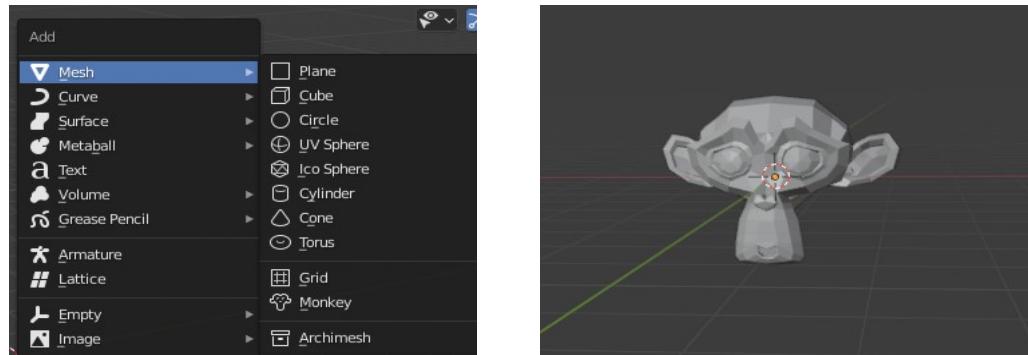
Step 8: Repeat the step 7 to write text in remaining section to look beautifully.



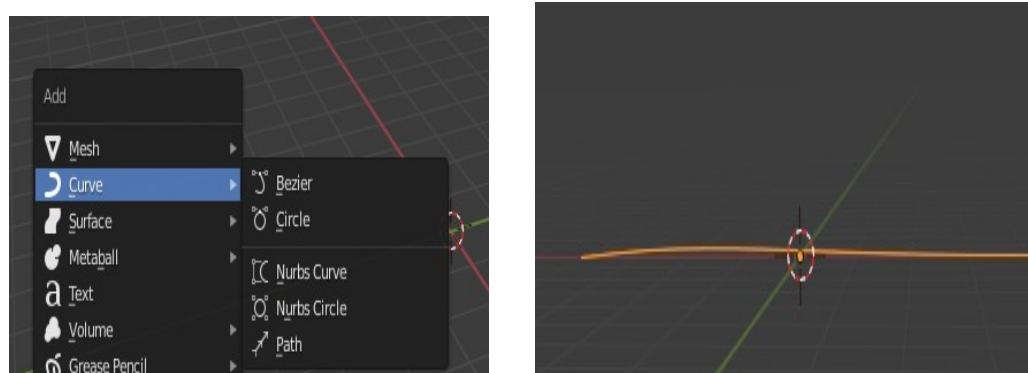
13. i) Add different objects to the space. Practice with both shortcut keys and menus

- ✓ To add a new object to your scene in blender, hover your mouse cursor over 3D view and use the Shift +A hotkey. From the menu that appears, choose the type of primitive you want to put into scene.

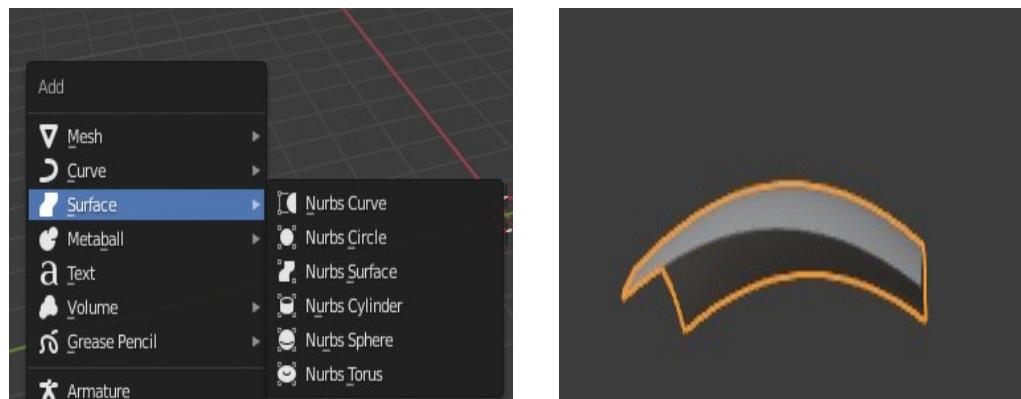
1. Mesh : Go to Mesh>Monkey.



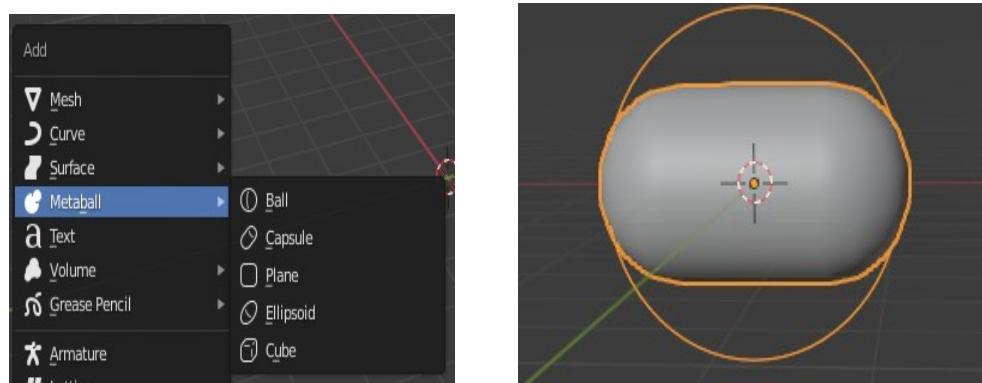
2. Curve : Go to Curve>Bezier.



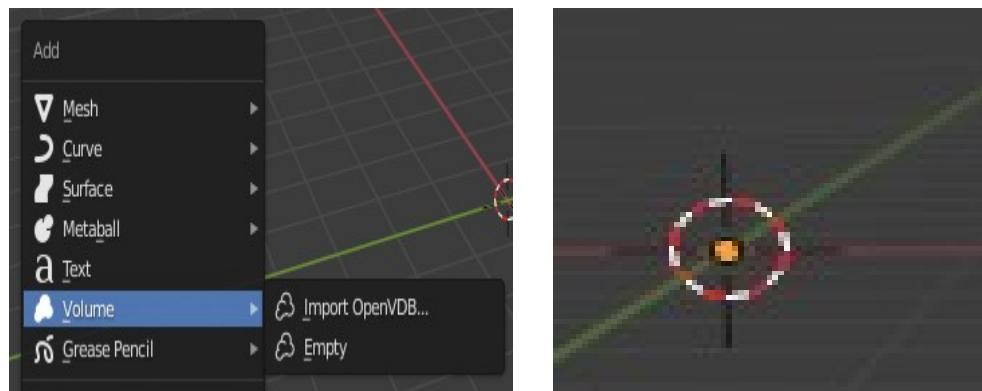
3. Surface : Go to surface> Nurbs Surface.



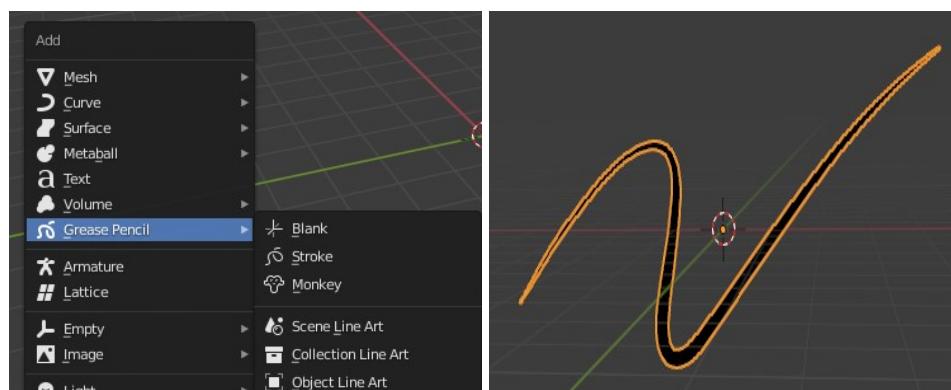
4. Metaball: Go to Metaball>Capsule.



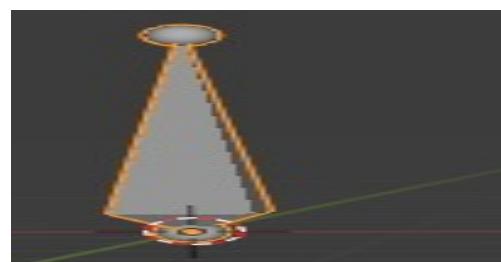
5. Volume: Go to Volume>Empty



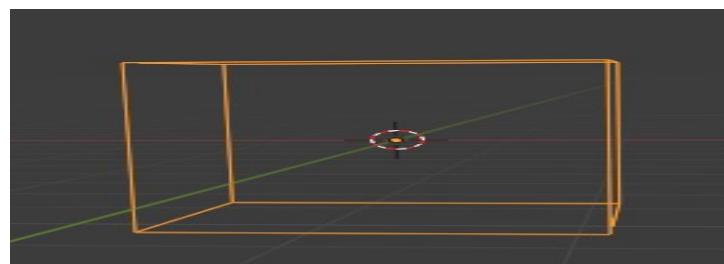
6. Grease Pencil: Go to Grease Pencil>Stroke.



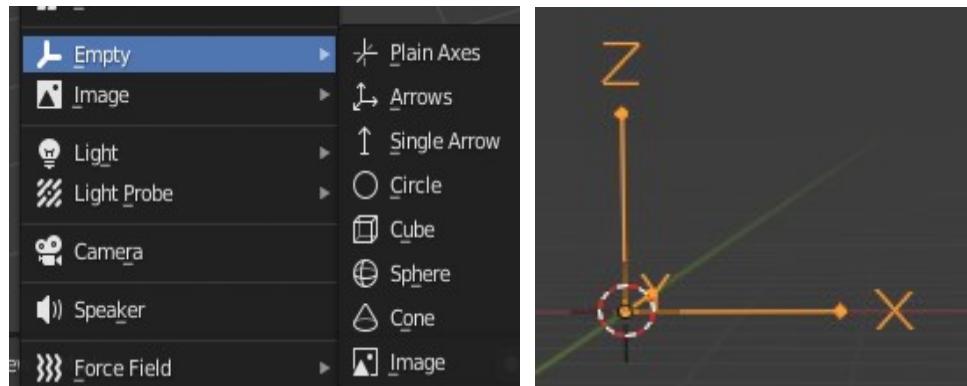
7. Armature



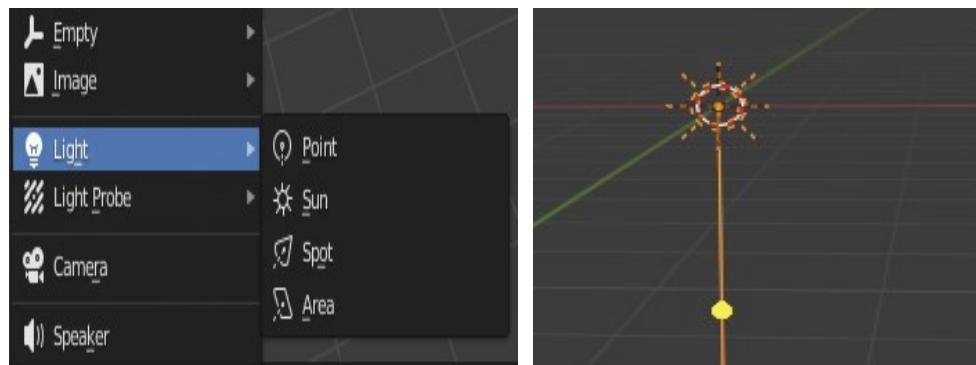
8. Lattice



9. Empty: Go to Empty> Arrows



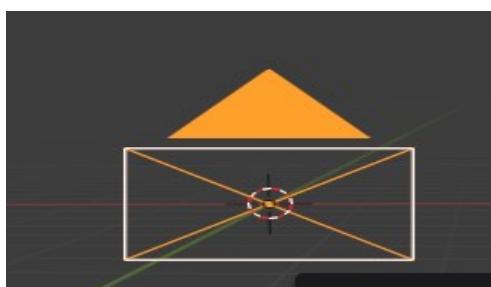
10: Light: Go to light>sun



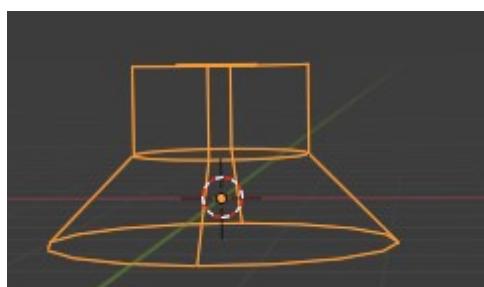
11:Light Probe: Go to Light probe>Replextion plane.



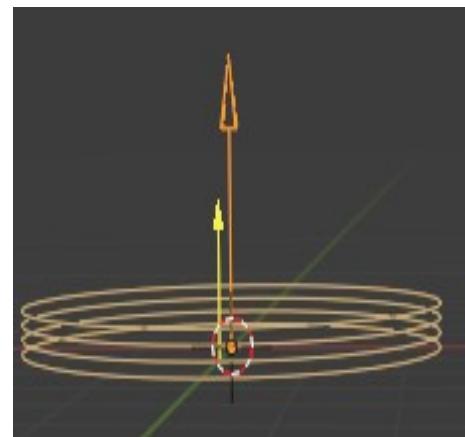
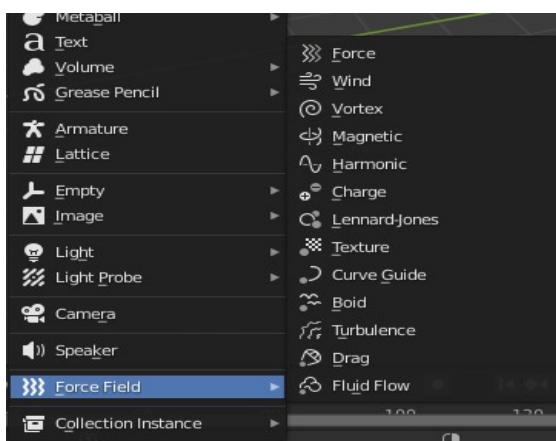
12: Camera



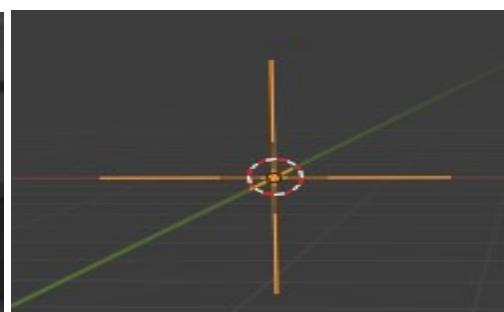
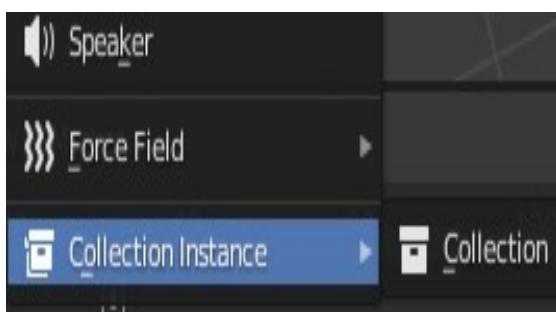
13. Speaker



14. Force Field: Go to Force Field> Wind.



15. Collection Instance: Go to Collection instance>collection.

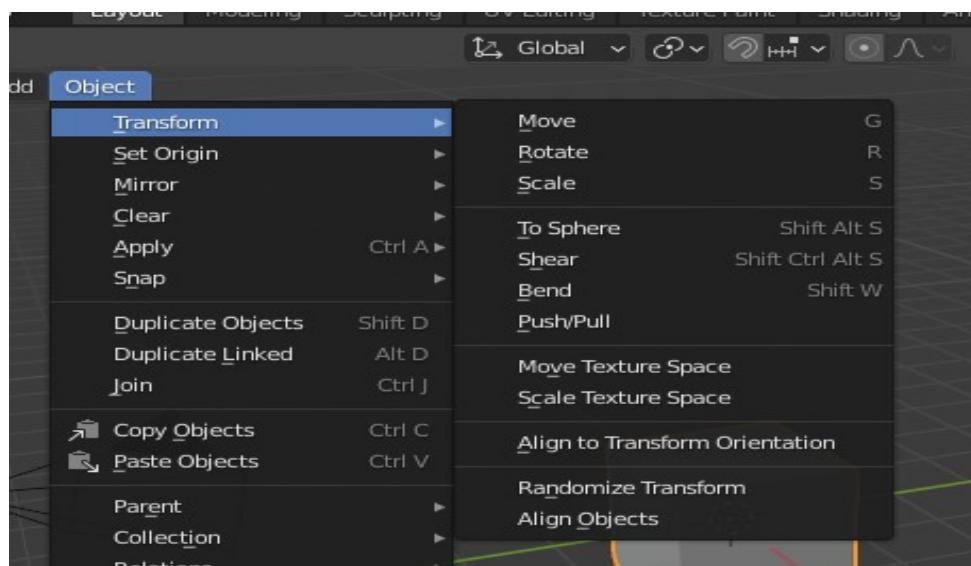


Shortcut keys and menus:

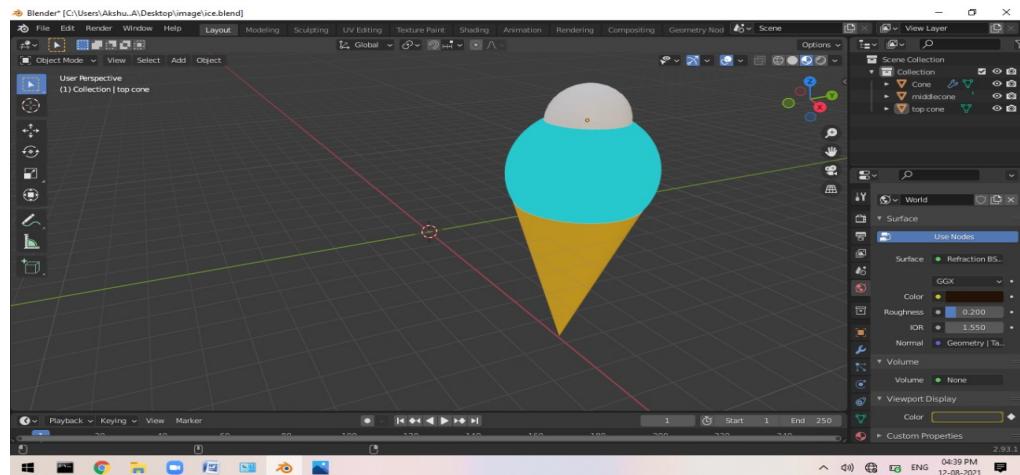
1. “I”—Insert Keyframe
2. “Shift +D”—Add duplicate
3. “R”—Rotate
4. “G”—Move
5. “S”—Scale
6. “A”—Select All
7. “I”—Inset
8. “N”—Properties Panel
9. “Shift +A”—Show Add menu
10. “E”—Extrude
11. “w”—Object context menu
12. “I”—Insert keyframe menu

ii) Perform Transformation operations on objects added in 14 (i).

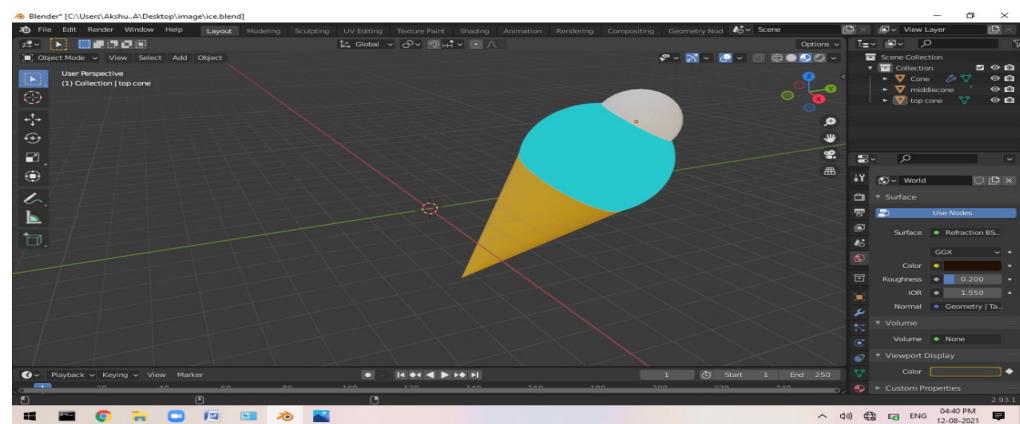
Transformation Operations: go to Object>Transform



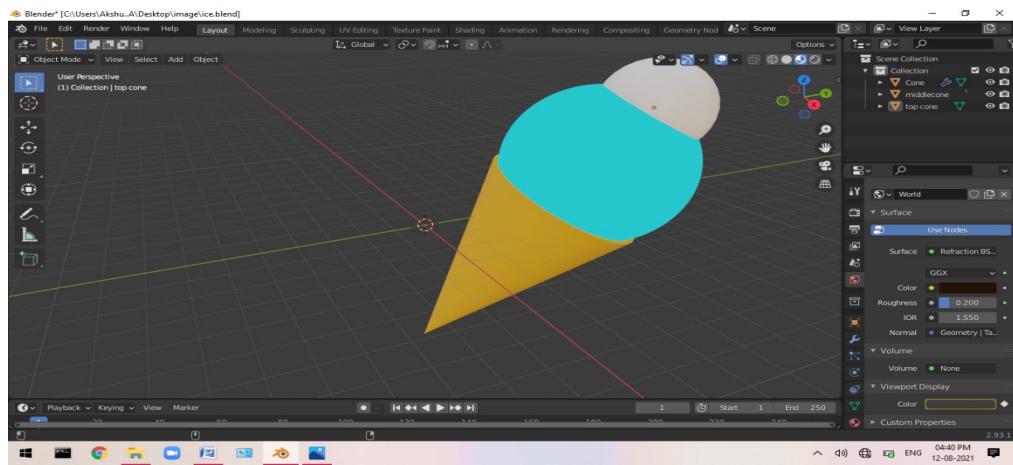
1. Move



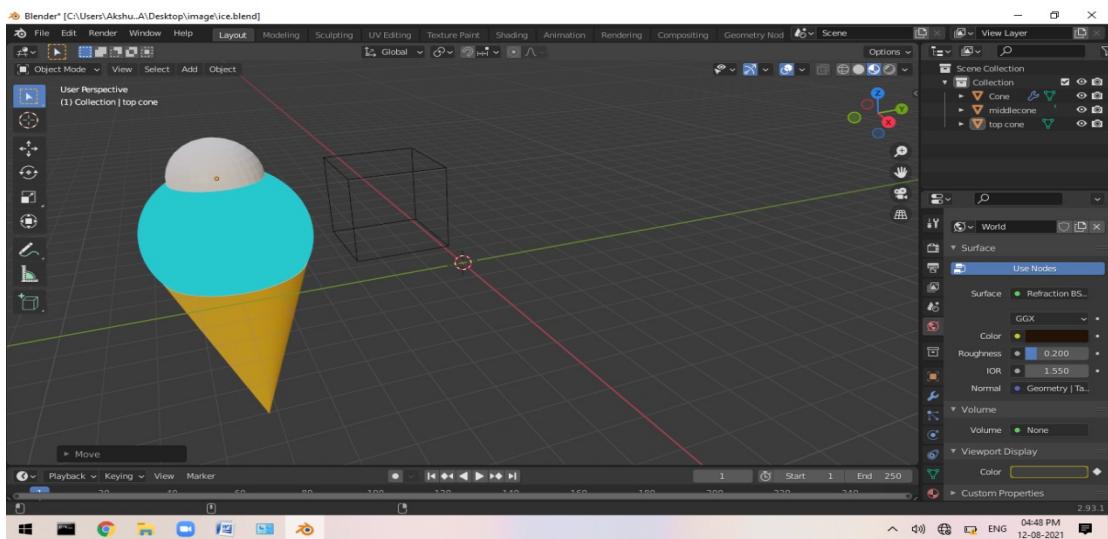
2. Rotate



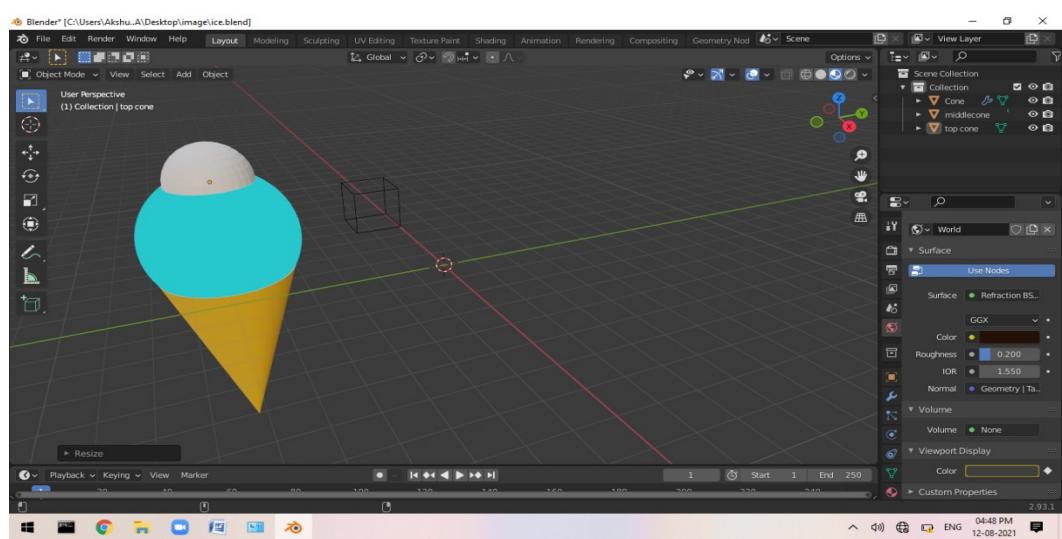
3. Scale



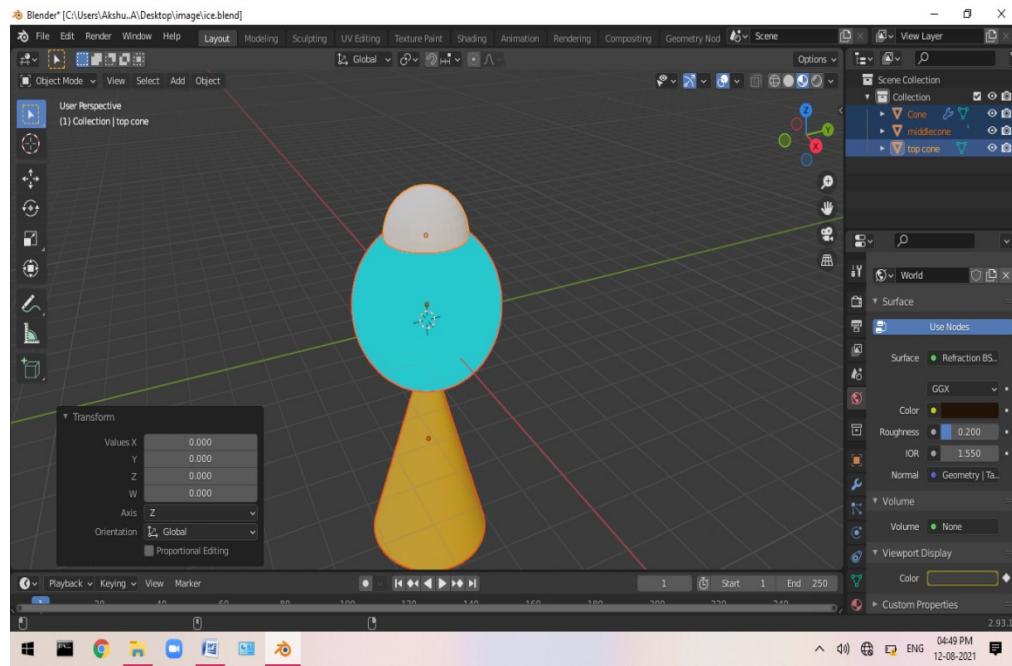
4. Move texture Space



5. Scale Texture Space



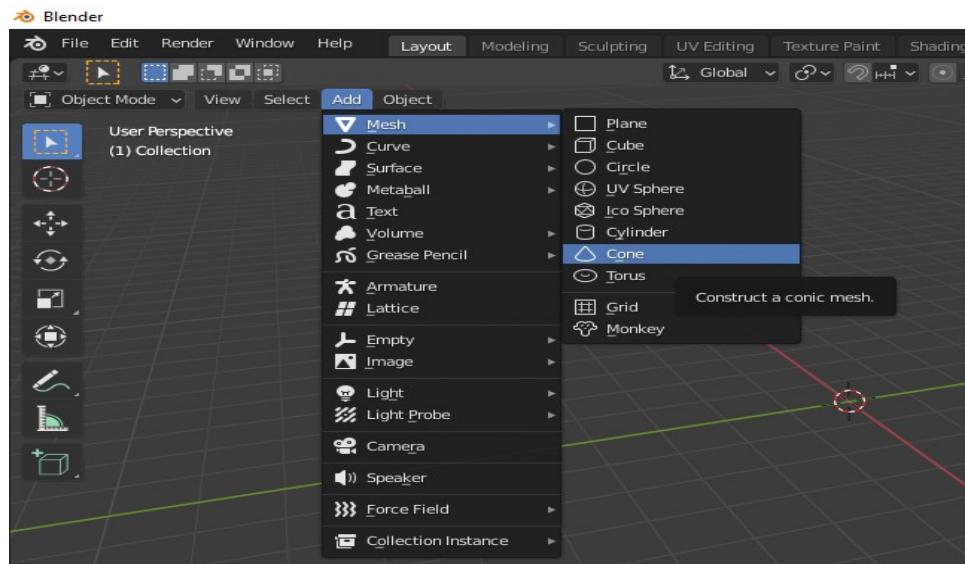
6. Align to Transform orientation



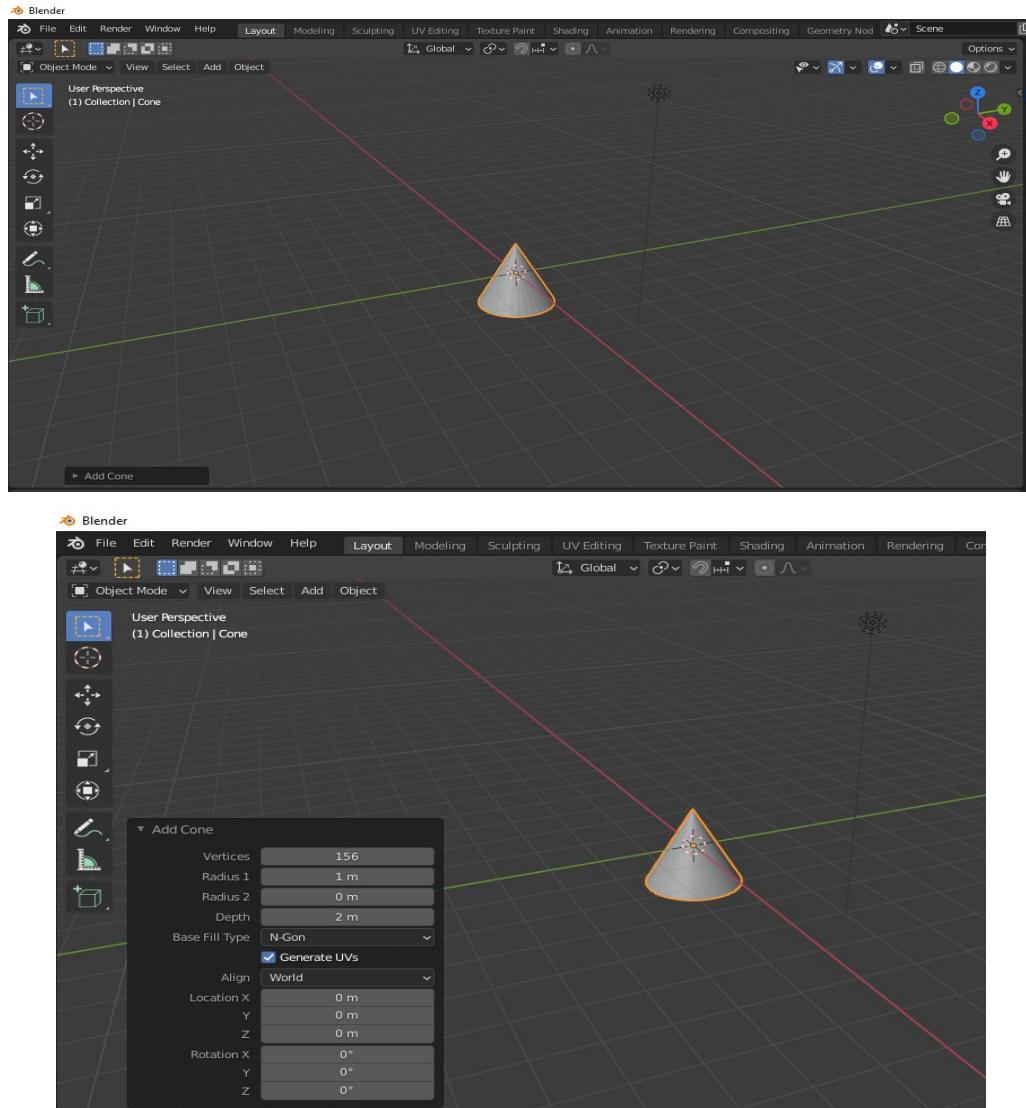
14. Create Primitive objects like an ice-cream cone, snowman, house, tunnel and like.

ICE-CREAM CONE

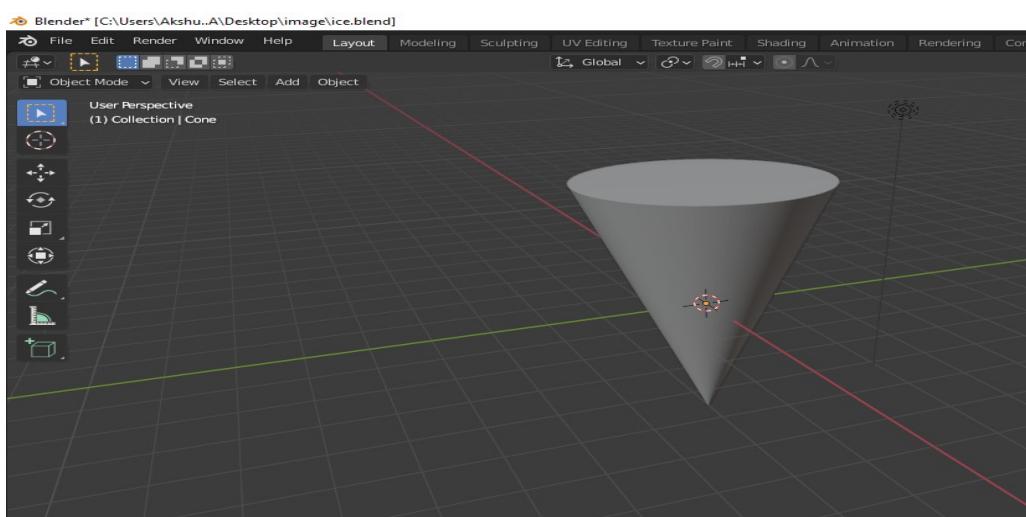
Step 1: Press Shift +A to bring up the add menu. Select “Mesh” and “Cone”.



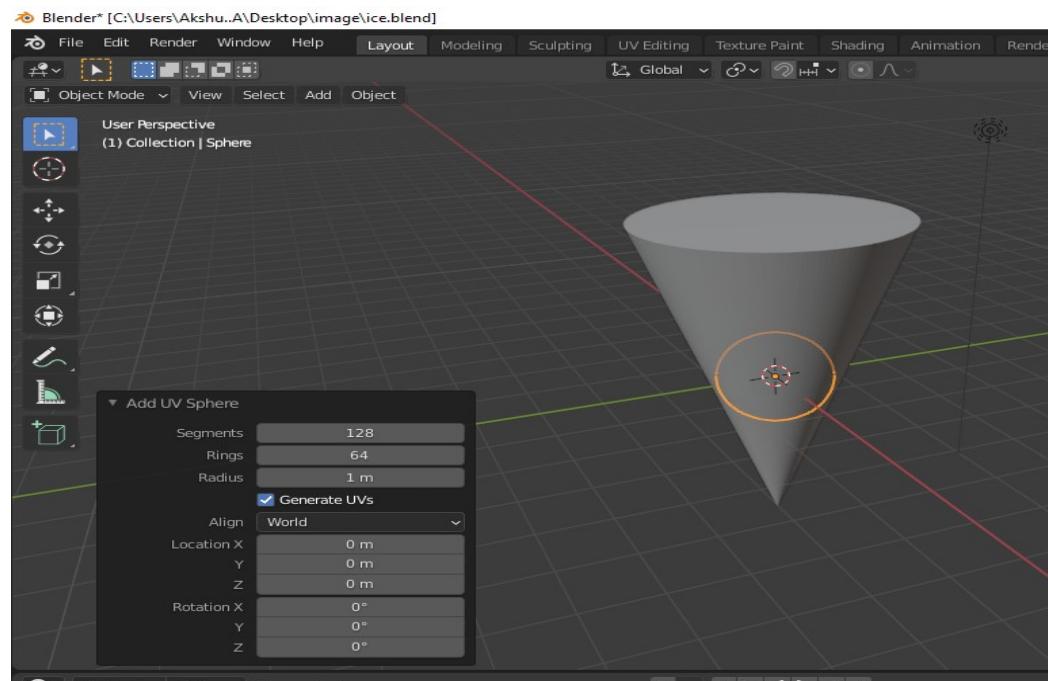
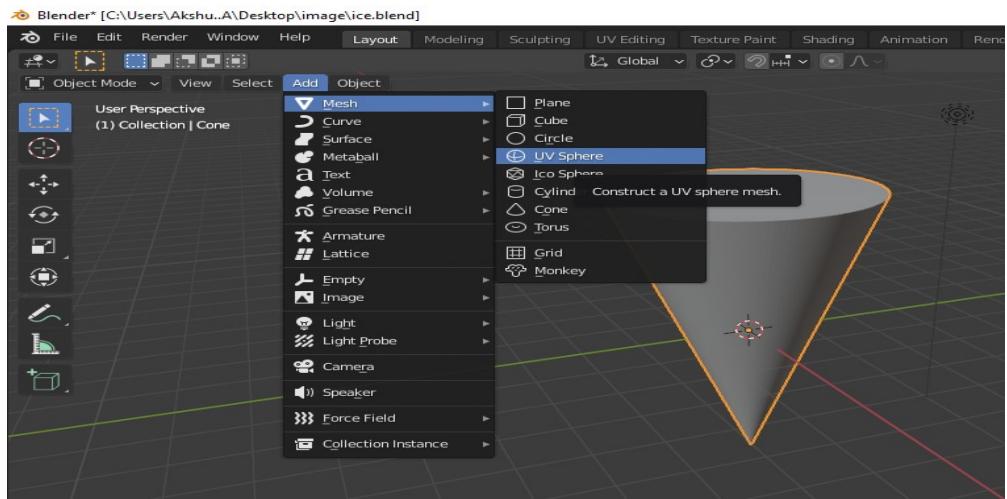
Step 2: In the lower left hand corner you will see a black box that says “Add Cone”. Click on that to open it. Set cone values as per your requirements.



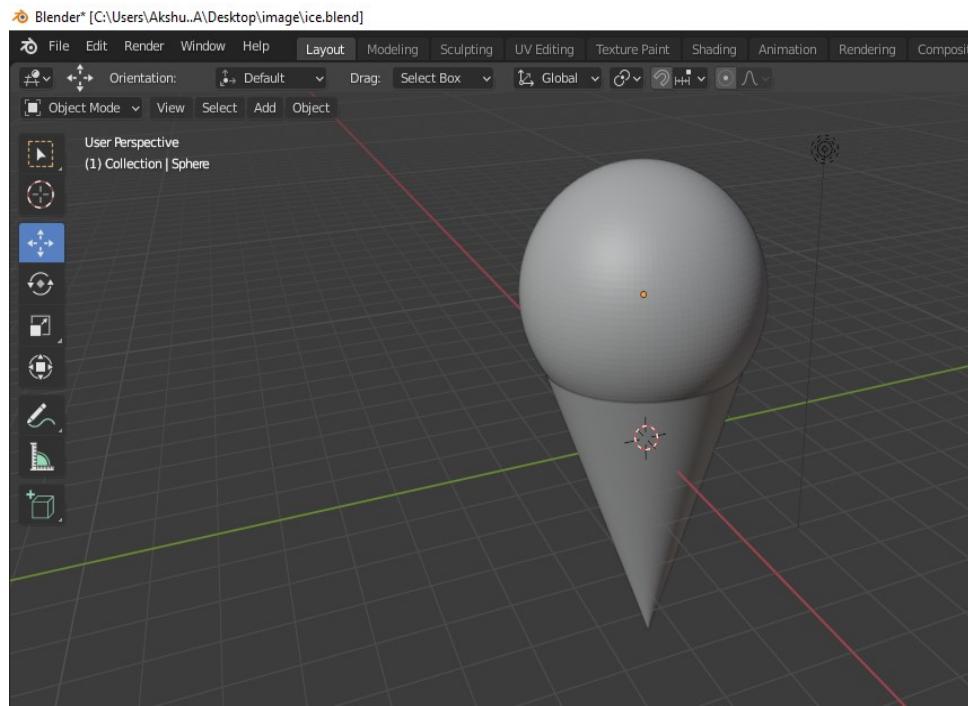
Step 3: Rotate the cone using Rotate option.



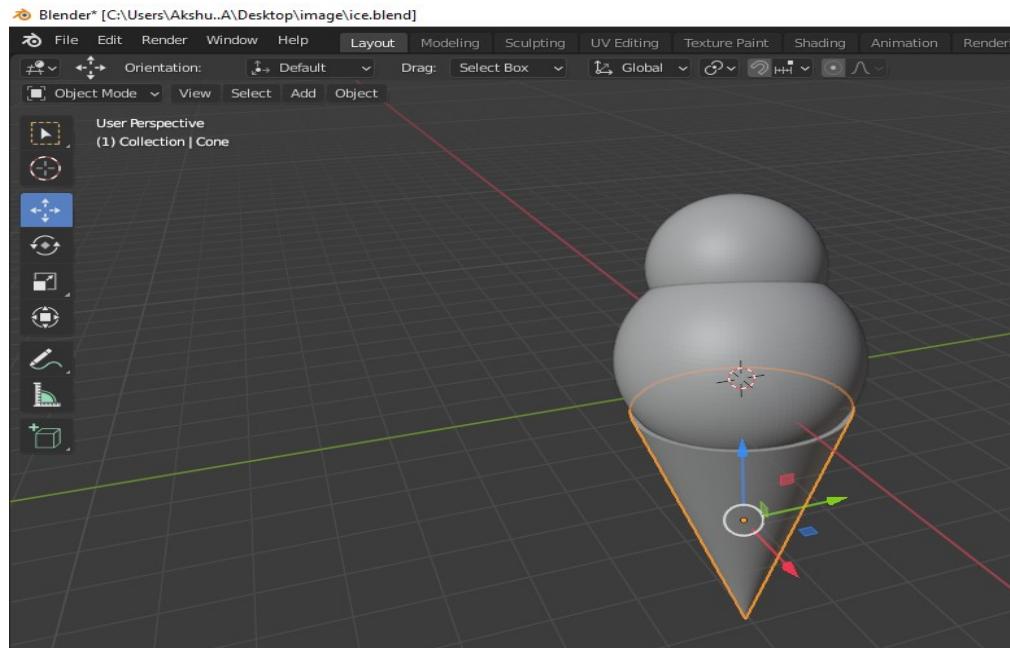
Step 4: Press Shift +A and under “Mesh” select “UV Sphere”. Set UV values.



Step 5: Press G then Z to move your sphere up to the top of the cone.

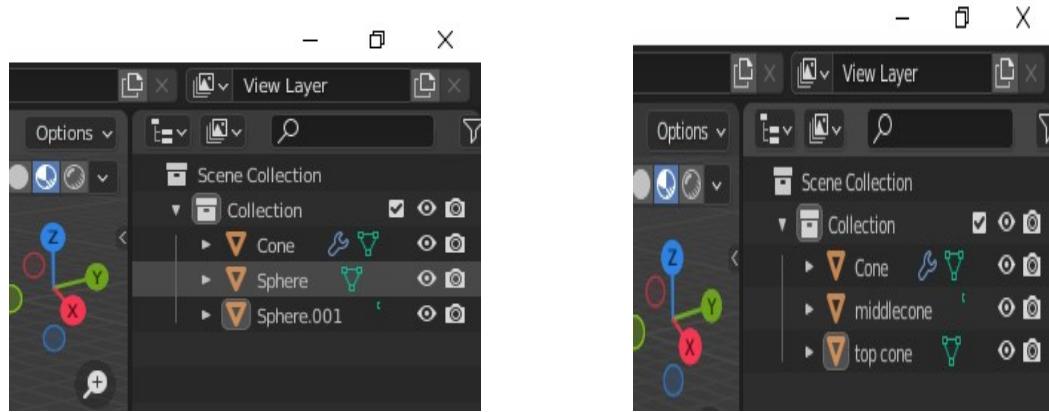


Step 6: To add another sphere, select previous cone and press Shift +D duplicate, then Z to move it straight up. Press S to scale it in and make it slightly smaller.

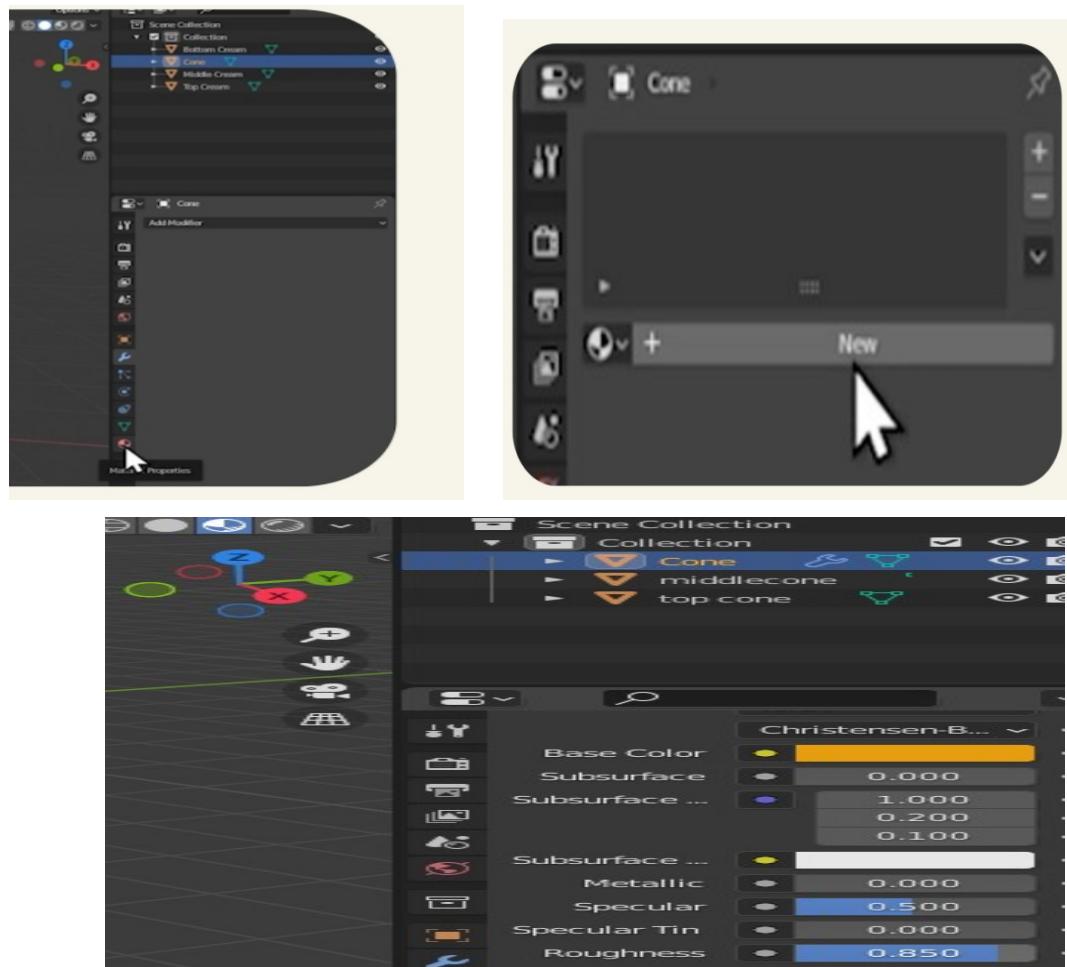


Step 7: Naming the shapes in your object. In the upper right hand corner of the interface, you will see a window with the list of the default names of all the shapes used for ice-

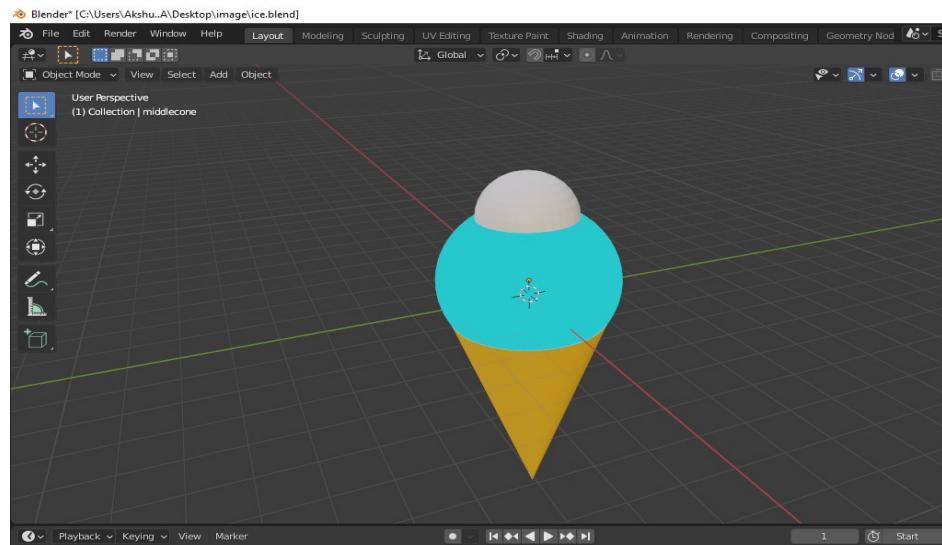
cream cone model. Double click the object from the list and give unique names for all other shapes.



Step 8: Make sure that your cone is selected. Go to the material Properties tab and click “new”. And Press Z and go to the material preview menu. Select the color of your cone by using base color. Adjust the roughness to approximately 0.850.

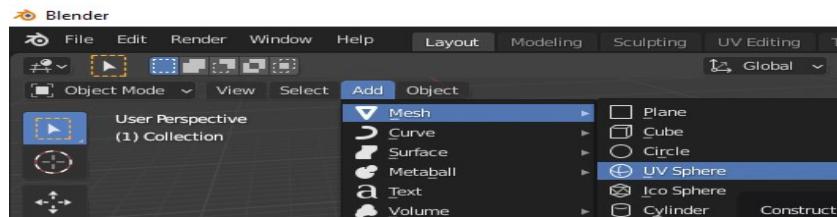


Step 9: Repeat step 8 for your ice cream scoops. This time decrease the roughness slider. Increase the specular tint, sheen, sheen tint, clear coat and clear coat roughness sliders to add some extra shine.

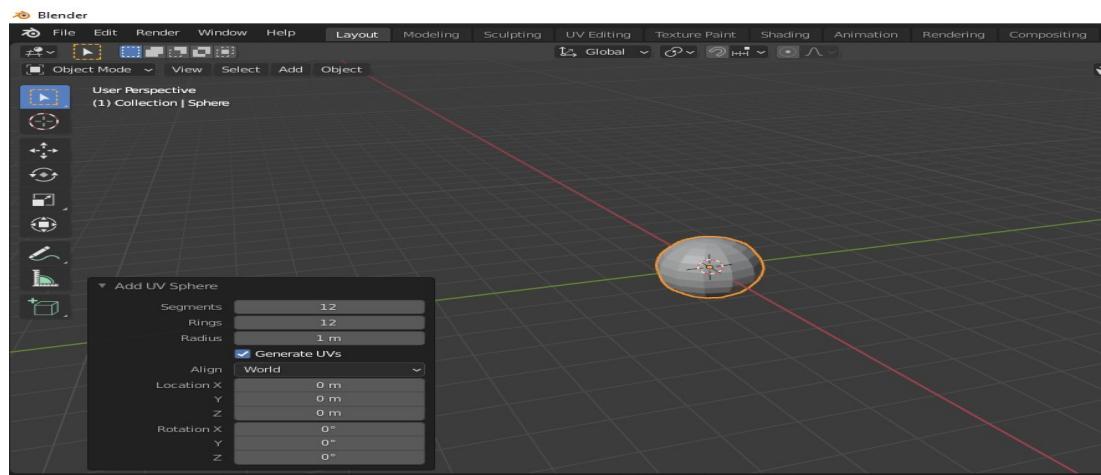


SNOWMAN

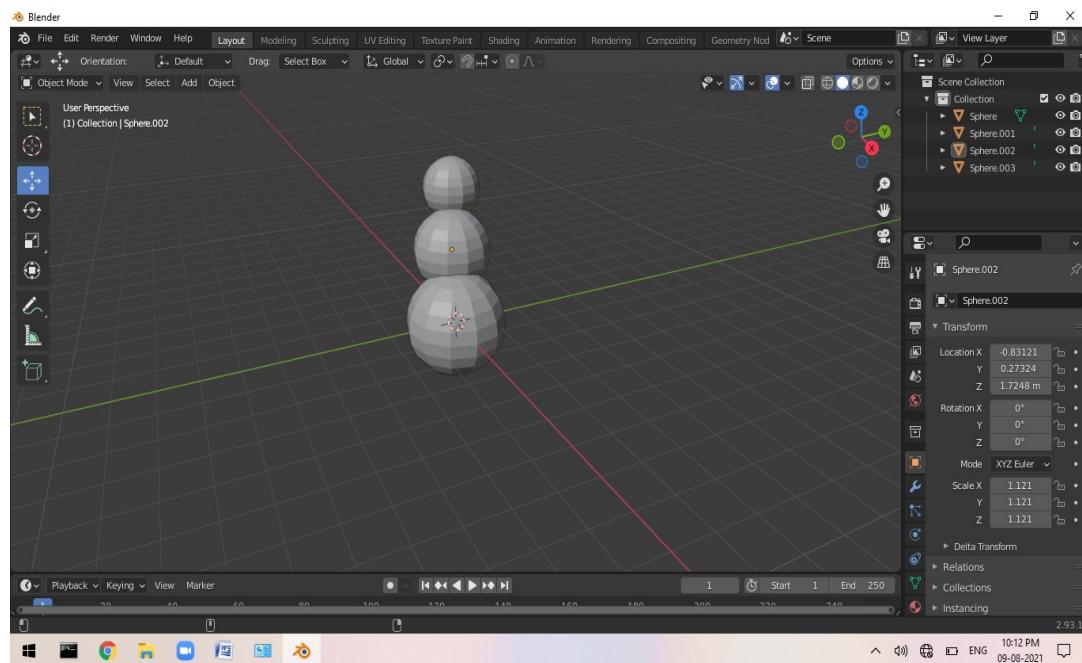
Step 1: Press Shift +A to bring up the add menu. Select “Mesh” and “UV sphere”.



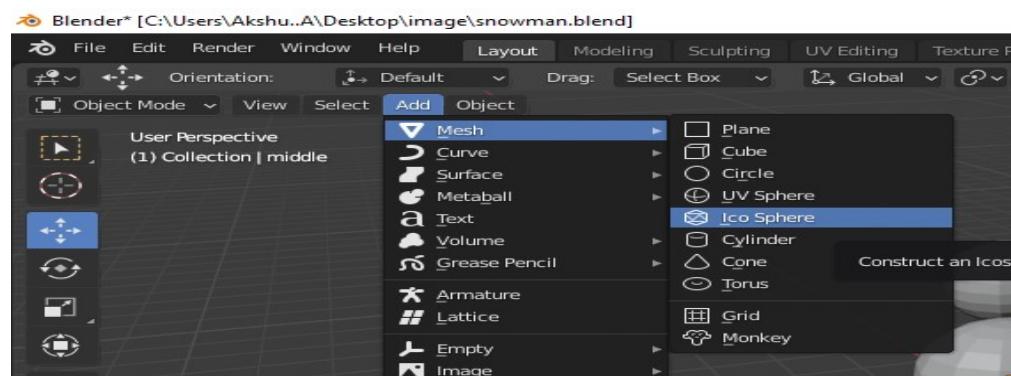
Step 2: In the lower left hand corner you will see a black box that says “Add UV sphere”. Click on that to open it. Set cone values as per your requirements.



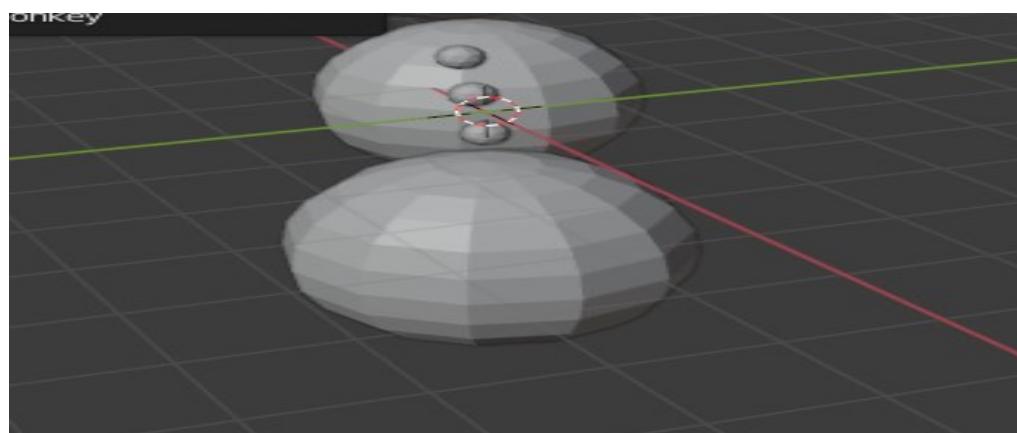
Step 3: Press shift + D to duplicate objects and click “G” to move object one by one.



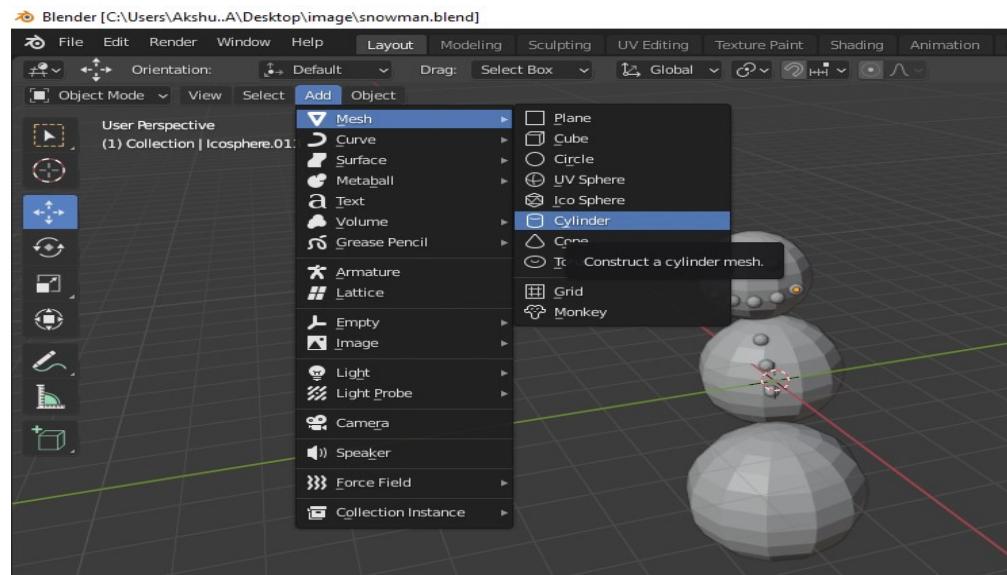
Step 4: Press Shift +A to bring up the add menu. Select “Mesh” and “Ico sphere”.



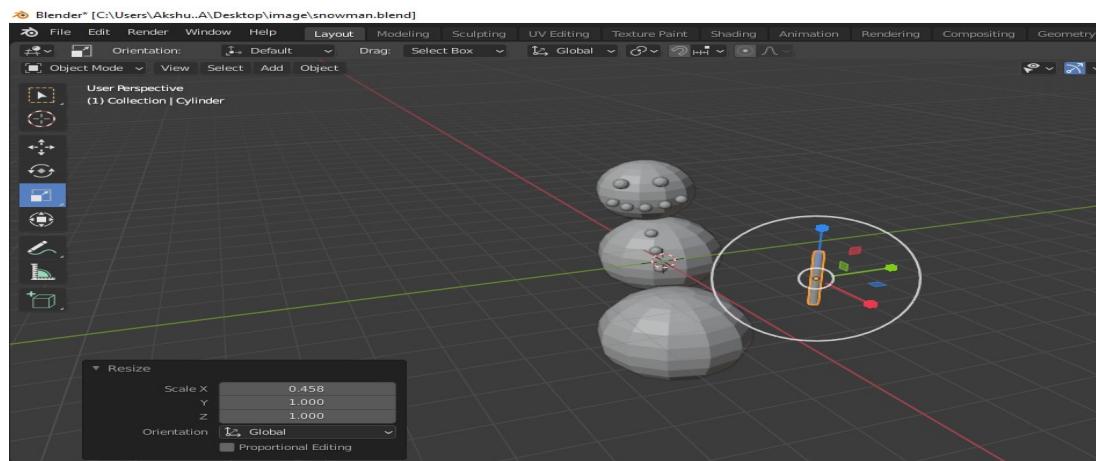
Step 5: Place Ico sphere and duplicate object using shift+D.



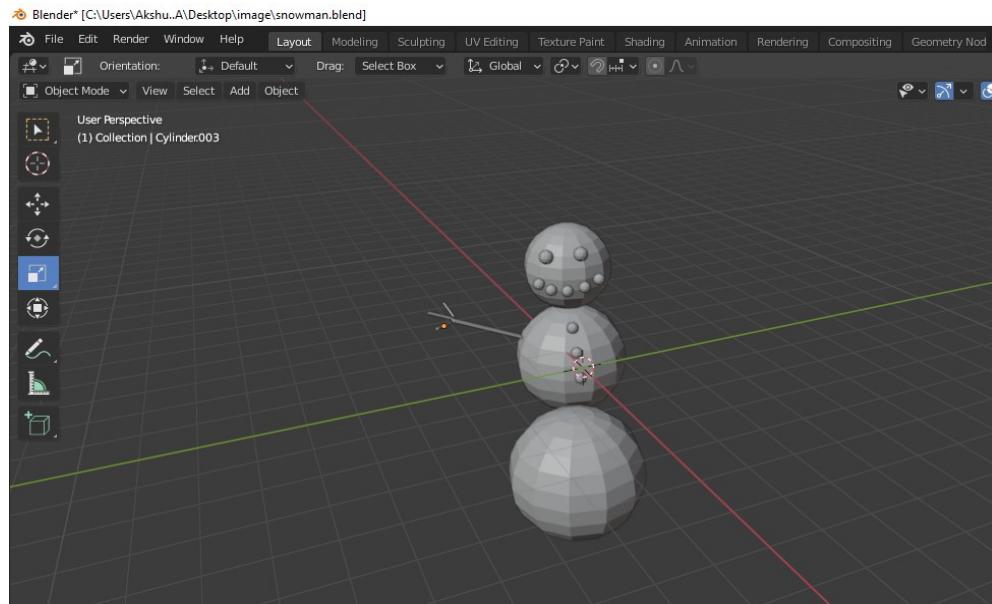
Step 6: Press Shift +A to bring up the add menu. Select “Mesh” and “cylinder”.



Step 7: scale the object by pressing “S” from keyboard. Rotate the object using rotate option. Add it to middle UV sphere and Resize object.



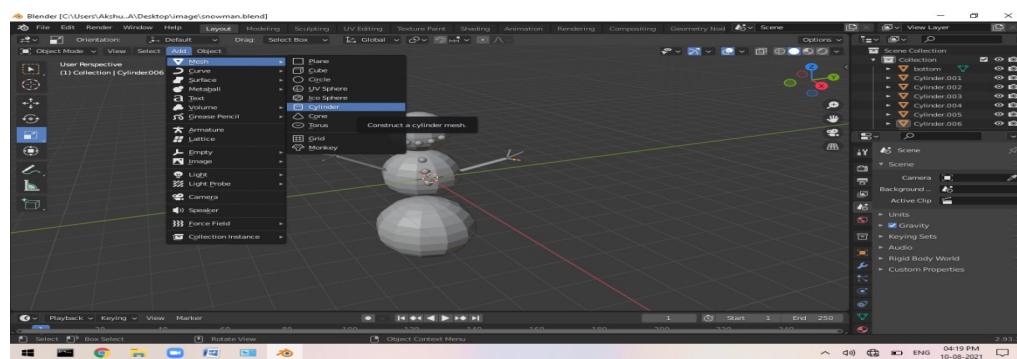
Step 8: Duplicate the object by pressing “Shift +D” from keyboard. Place it with modified cylinder.

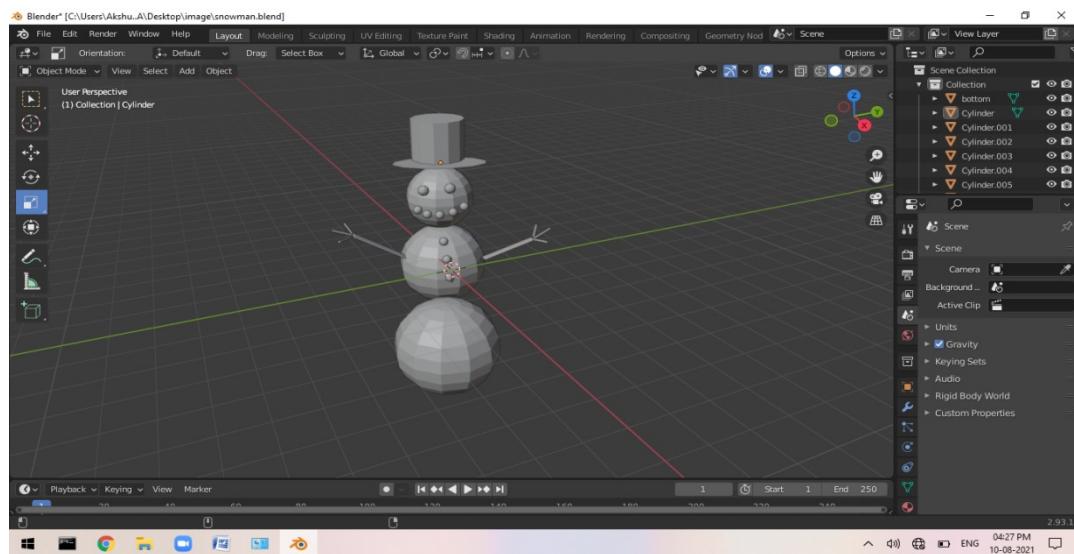


Step 9: Repeat the step 8.

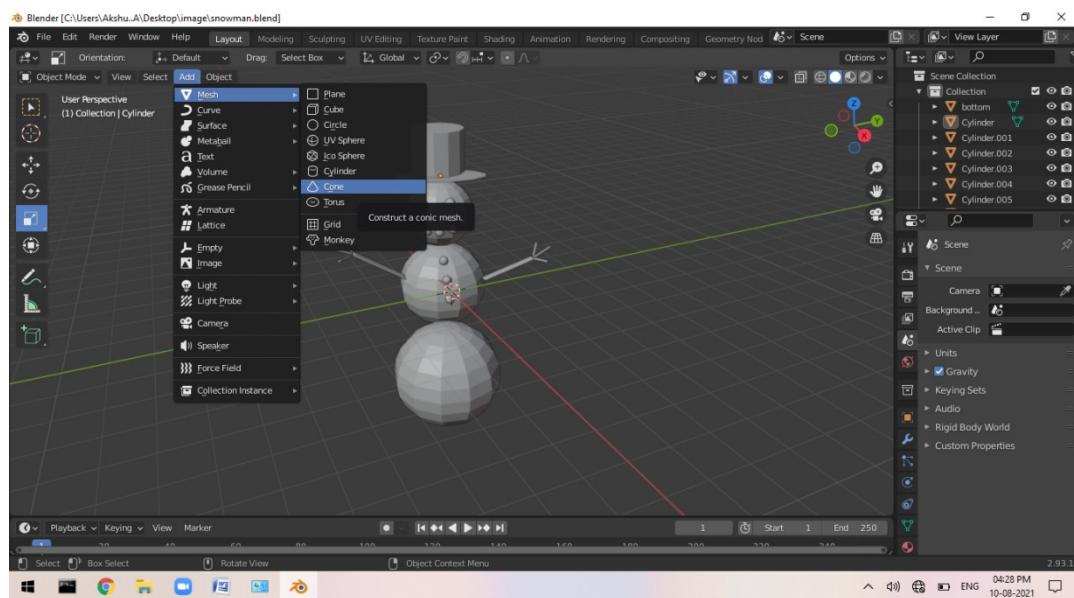


Step 10: Press Shift +A to bring up the add menu. Select “Mesh” and “cylinder”.





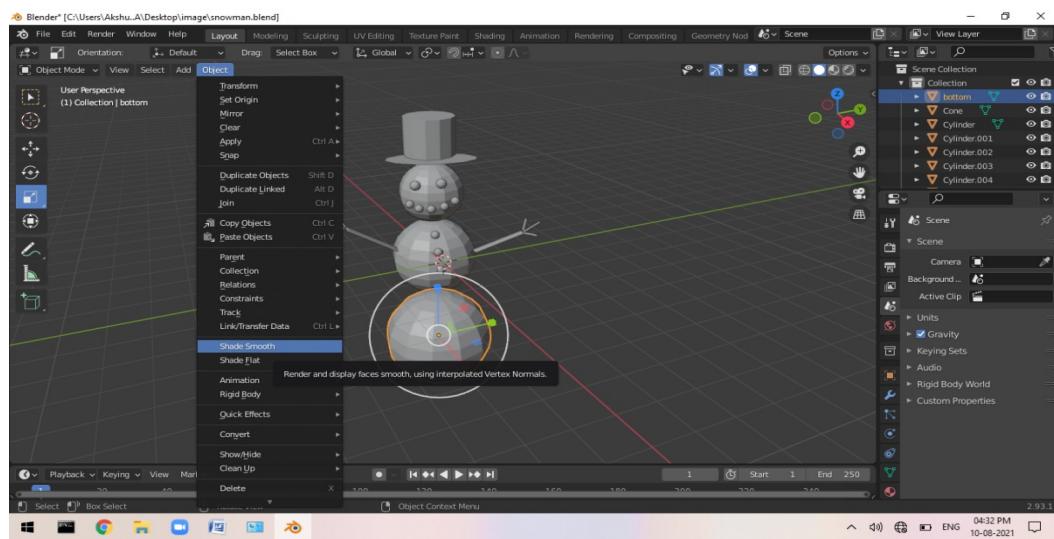
Step 11: Press Shift +A to bring up the add menu. Select “Mesh” and “cone”.



Step 12: place cone in top sphere.

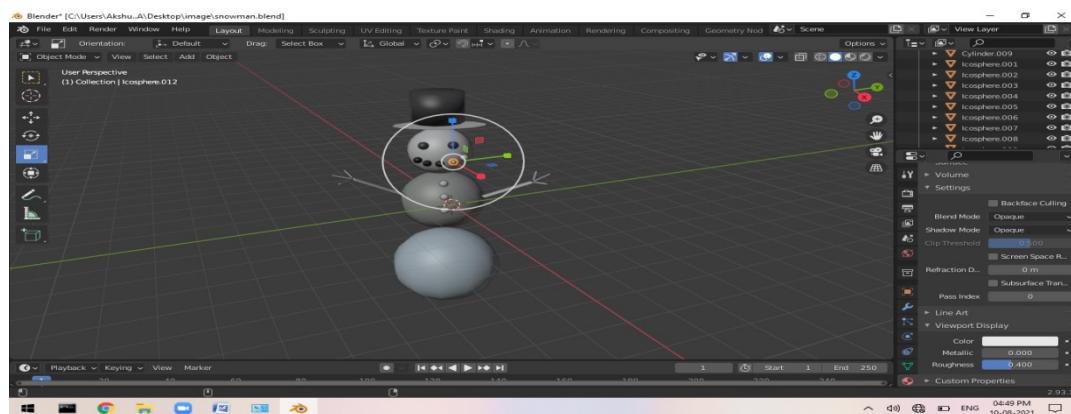


Step 13: click “object” option, select each sphere and choose “Shade smooth”.

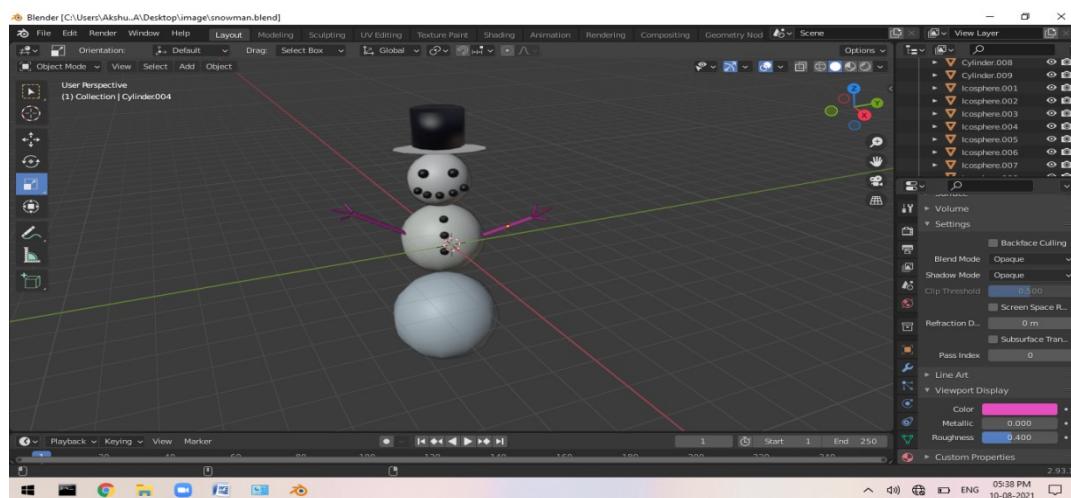


Step 14: select color to each object by clicking material properties then click “new”.

Click on “viewport display” and adjust &choose color.

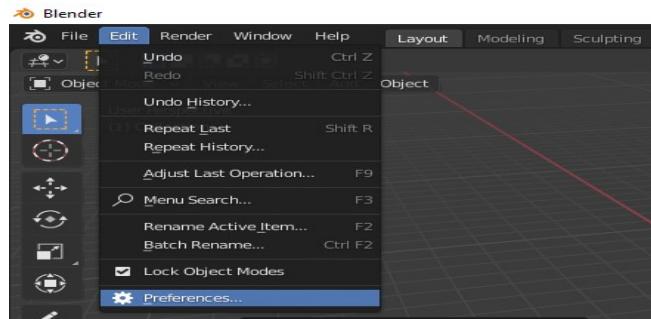


Step 15: Apply your interested colors to each object.

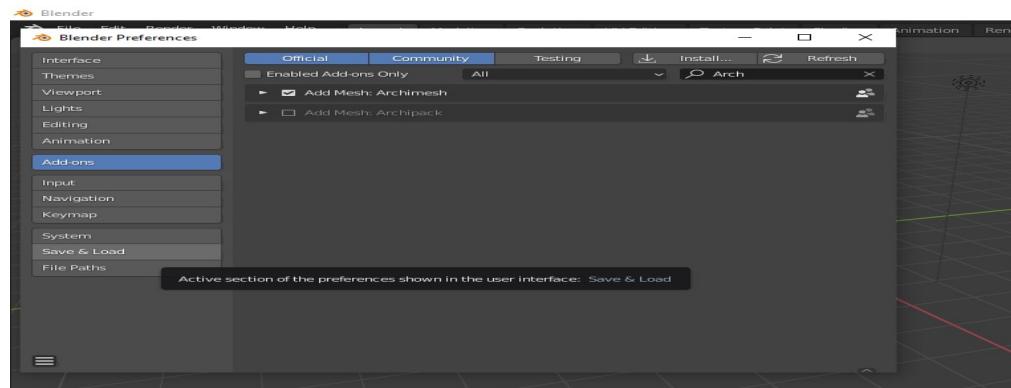


HOUSE

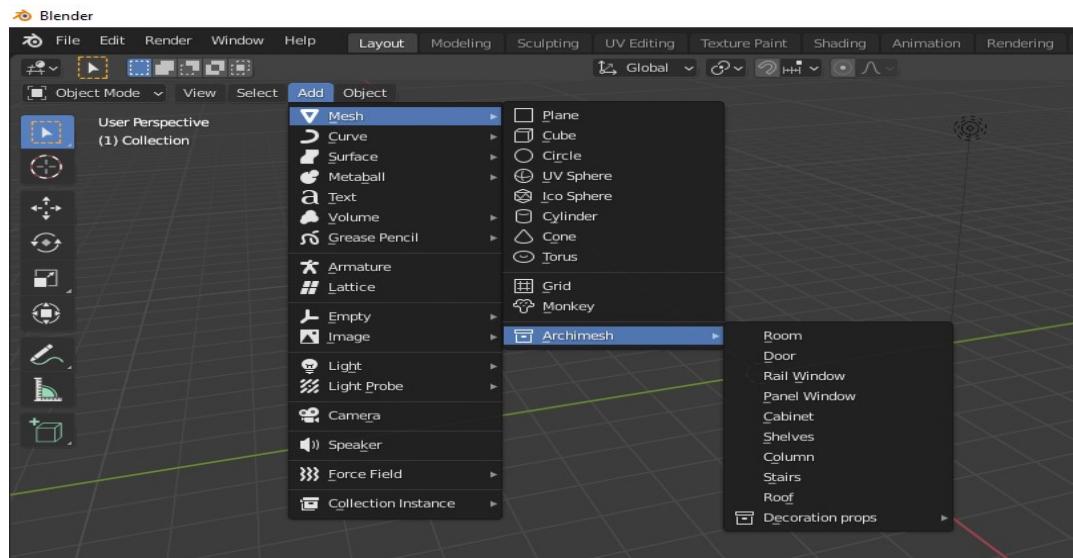
Step 1: With blender open, access Preferences from Edit->Preferences. Go to the Add-ons tab and select.



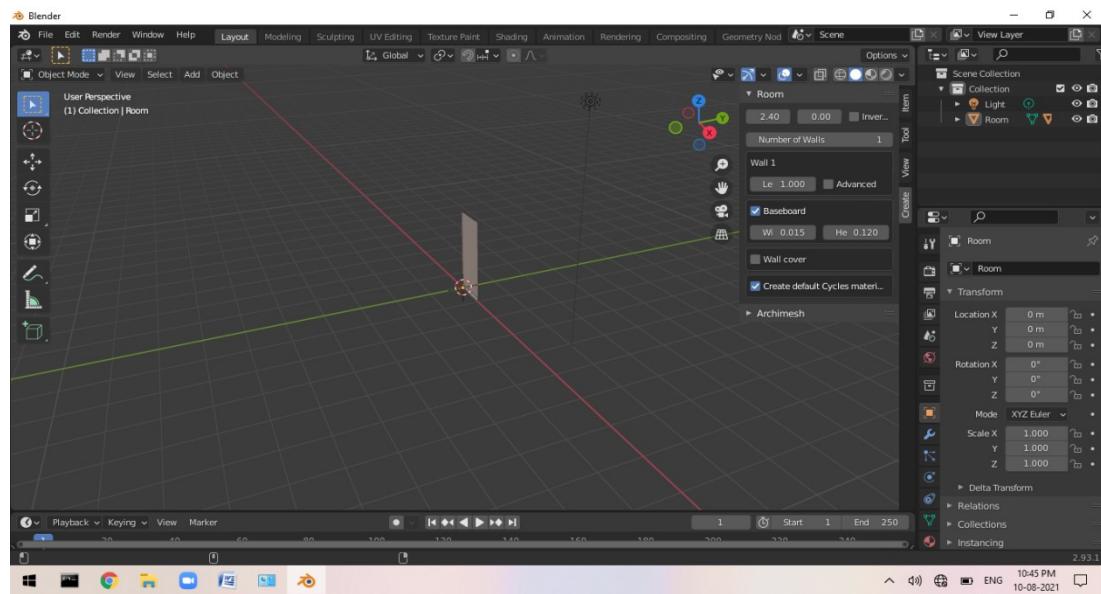
Step 2: Search for “Archimesh” and you will find it. Check the box and save it.



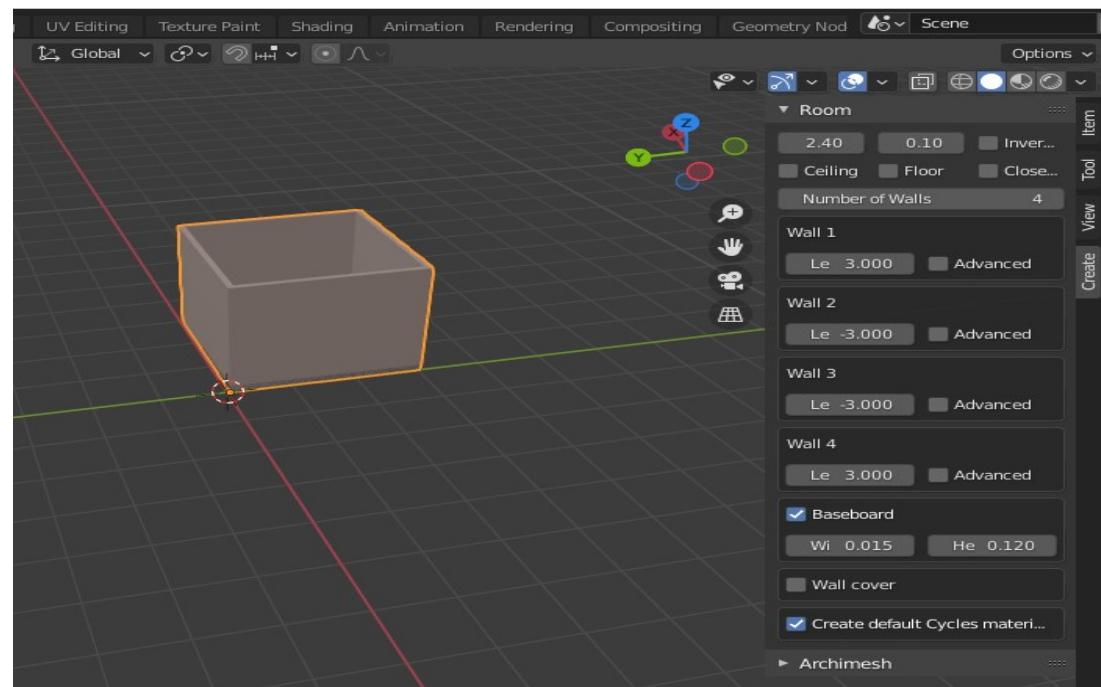
Step 3: Once the add-on is added, Shift +A adds Archimesh to the Add mesh item. You will find the Room, Door, Rail Window, Panel window, Cabinet, Shelves, Columns, Stairs and Roof.



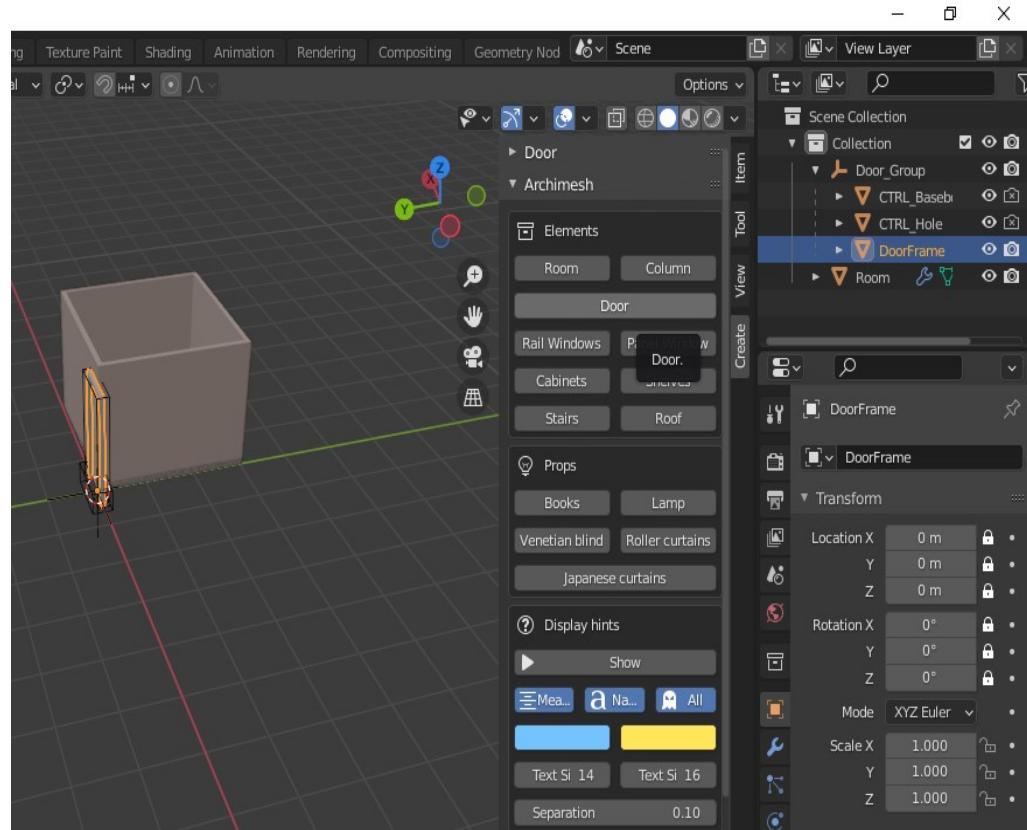
Step 4: Go to Add>Mesh>Archimesh>Room to get a mesh for Room. Then a small wall will pop up.



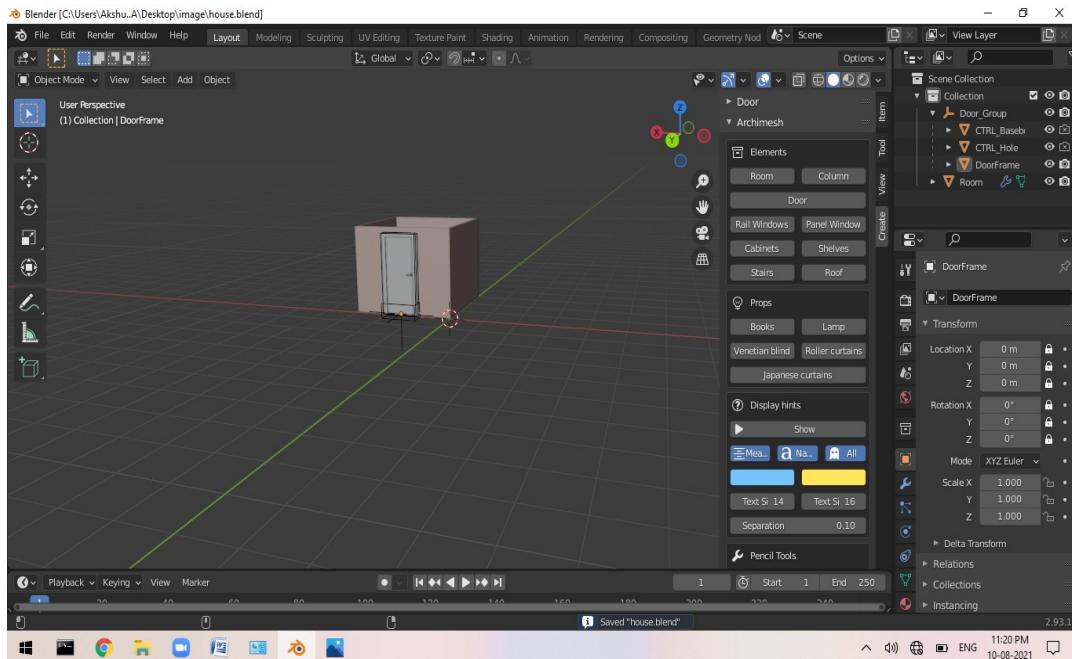
Step 5: If you select another wall, you can also select it to see this menu. Let's create room by manipulating this menu. First ,we will set the number of walls i.e. 4 and menu will contain more menus from wall 1 to 4. In each wall menu, you can set length of wall. If you want to make square room with 4 walls, make wall 1 and 3 the same length, wall 2 and 4 to the same length.

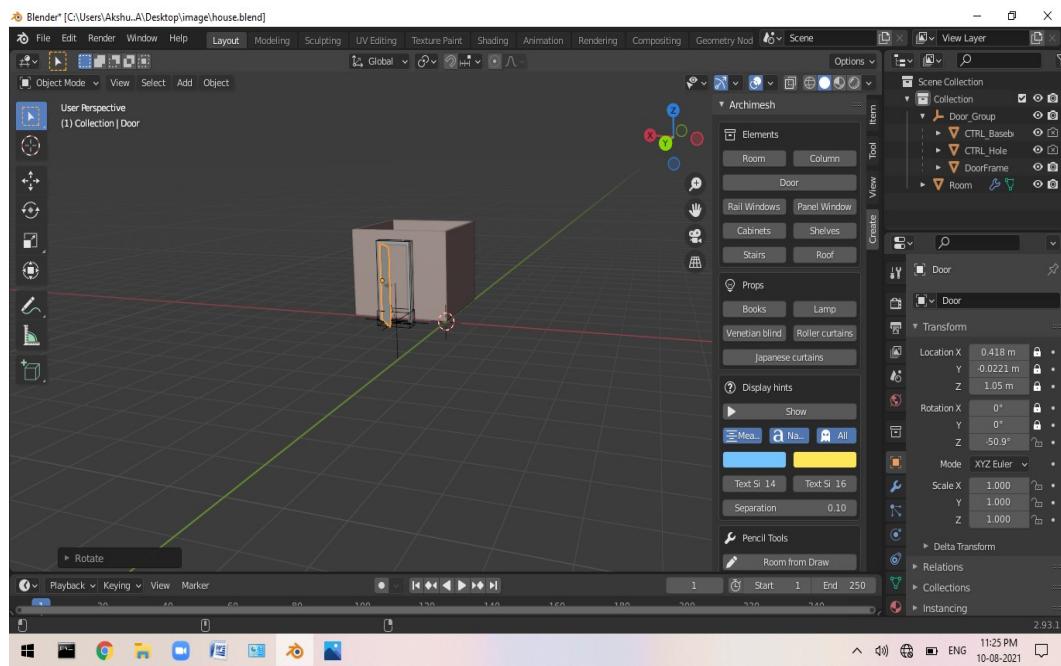


Step 6: click Archimesh>Elements>Door.

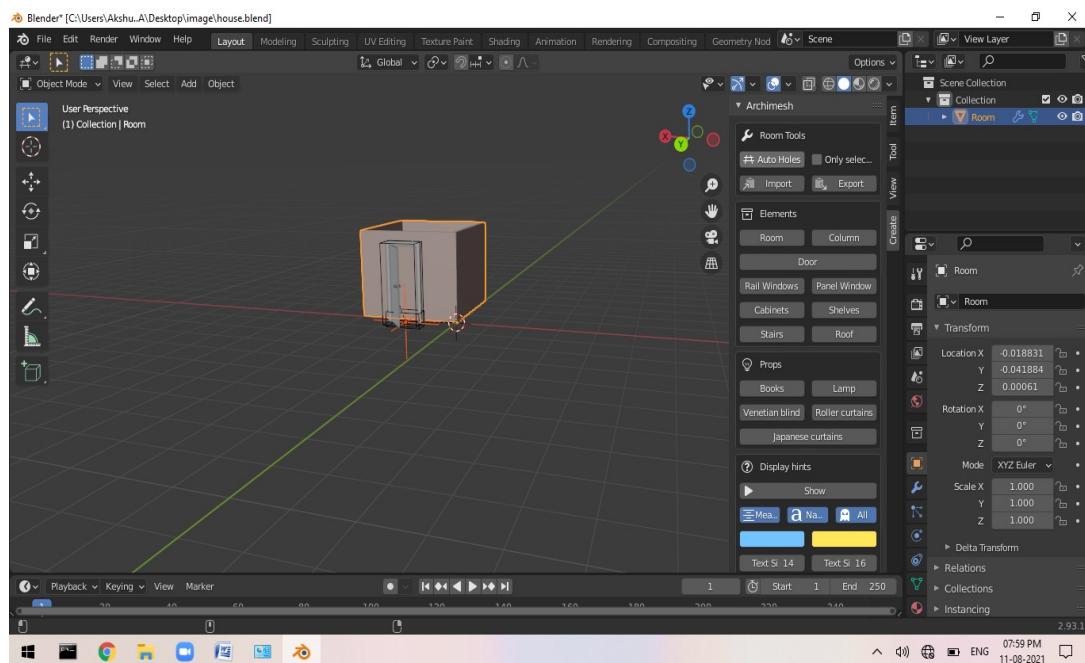


Step 7: select Door_group, CTRL_base, CTRL_Hole, Doorframe using Shift key then click “G” from keyboard to place door. In order to open the door, click “R”.

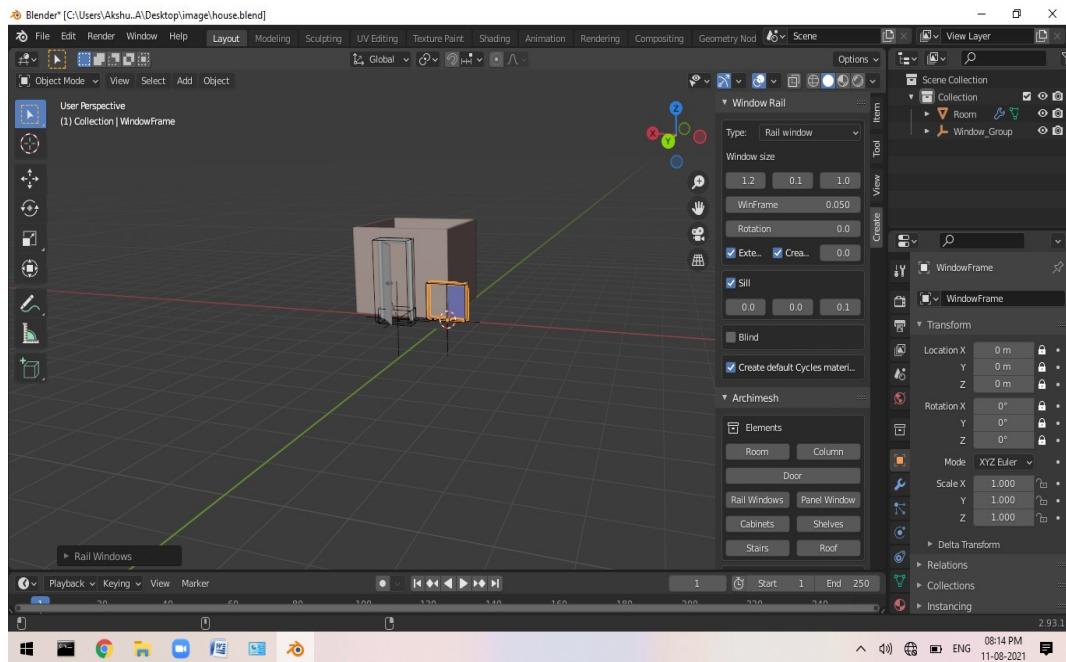




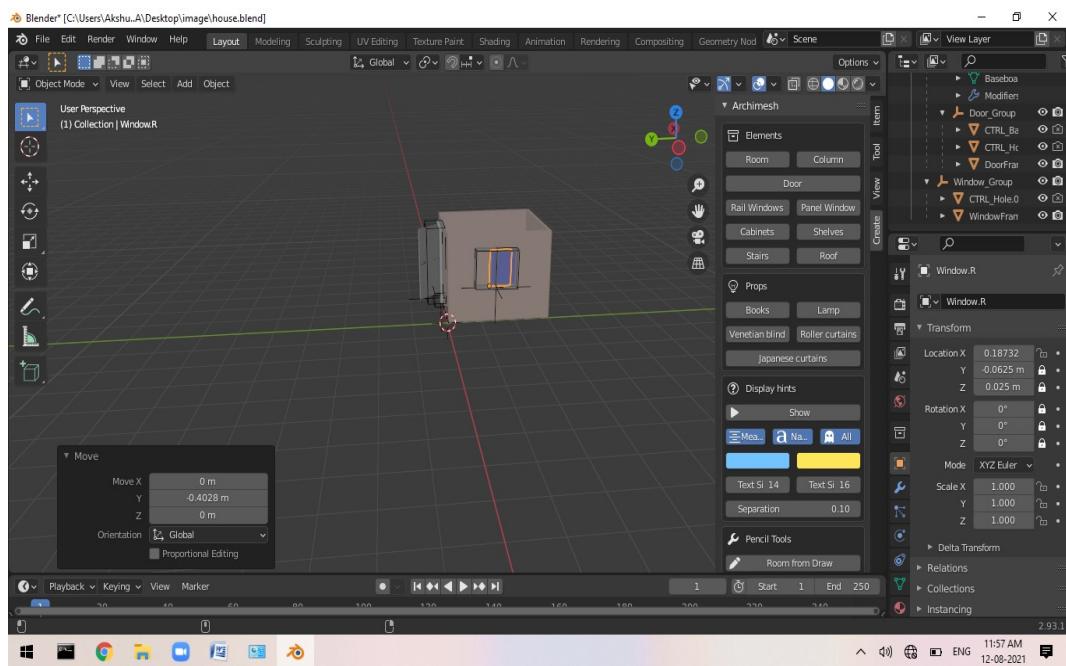
Step 8: Select walls of home and Select Auto hole from wall menu. By doing so, you will make hole in the wall.



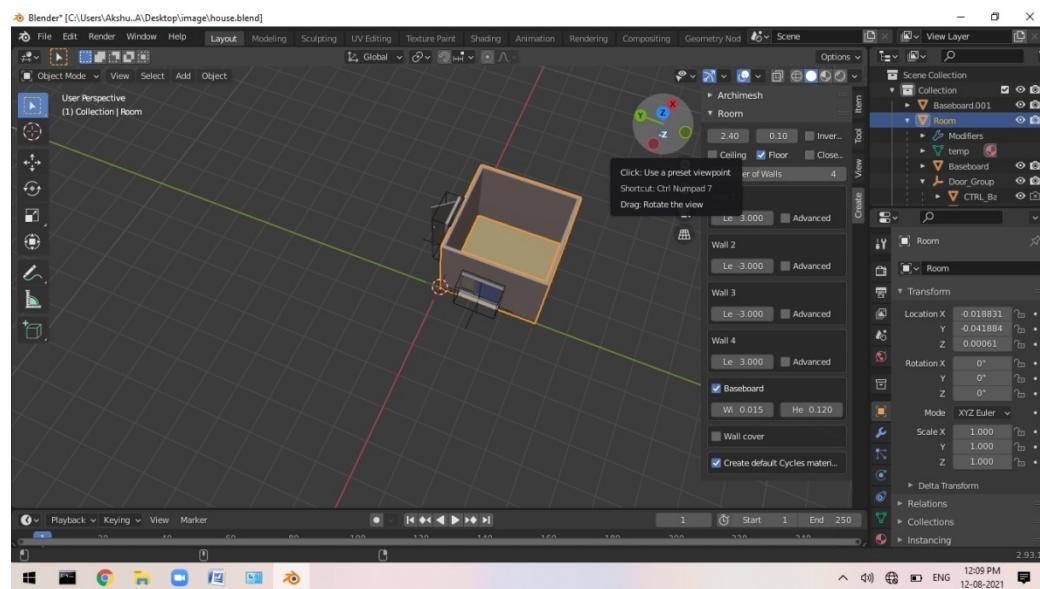
Step 9: Turn on window (there are two types of windows: Rail window& Panel window).Choose Rail window. Select Window _Group and its submenu. Press “G” to move. Hit “R” then “G” and set angle -90 degree. Click “G” then “y” to slide.



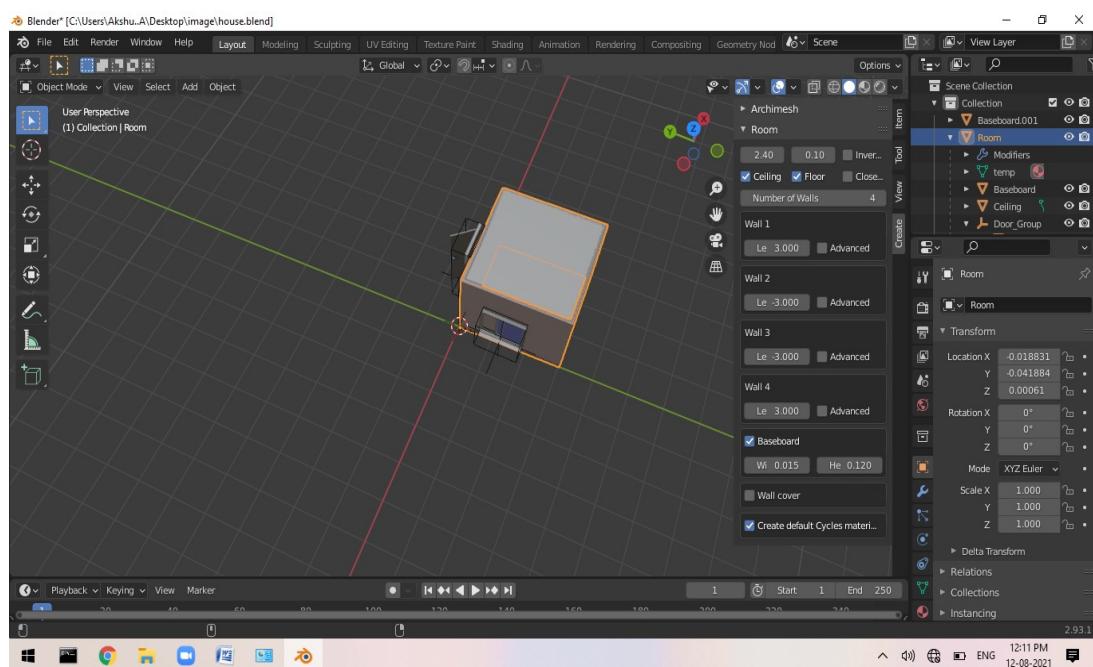
Select one window, hit “G” then “Y”. You can slide the window.



Step 10: select Room and click on Auto holes. Under the “Room” menu, and click on “Floor”.

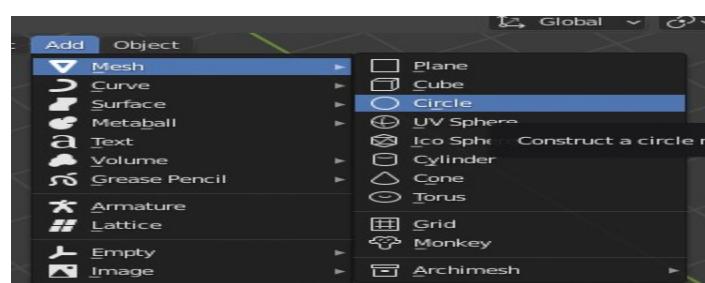


Under the “Room” menu, and click on “Celing”.

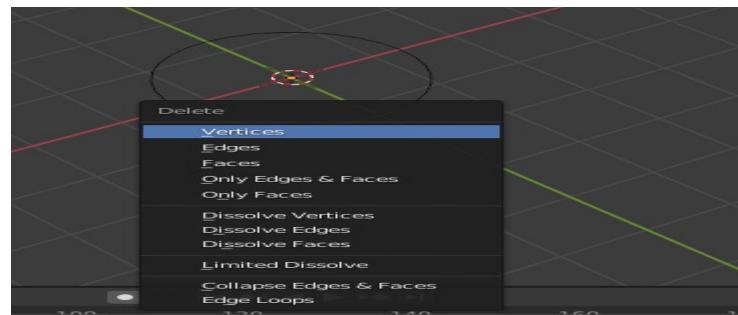


TUNNEL

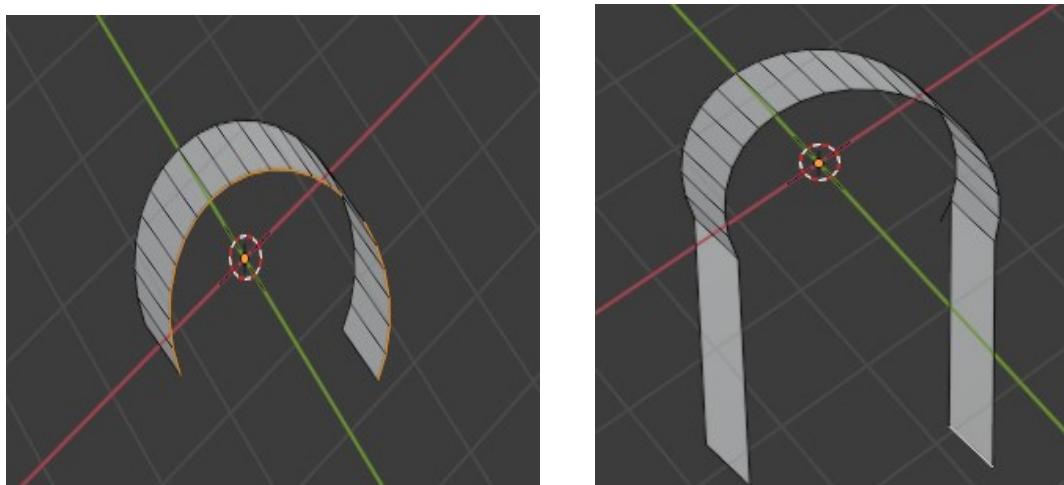
Step 1: Go to Add>Mesh>Circle and scale object by hitting “S”.



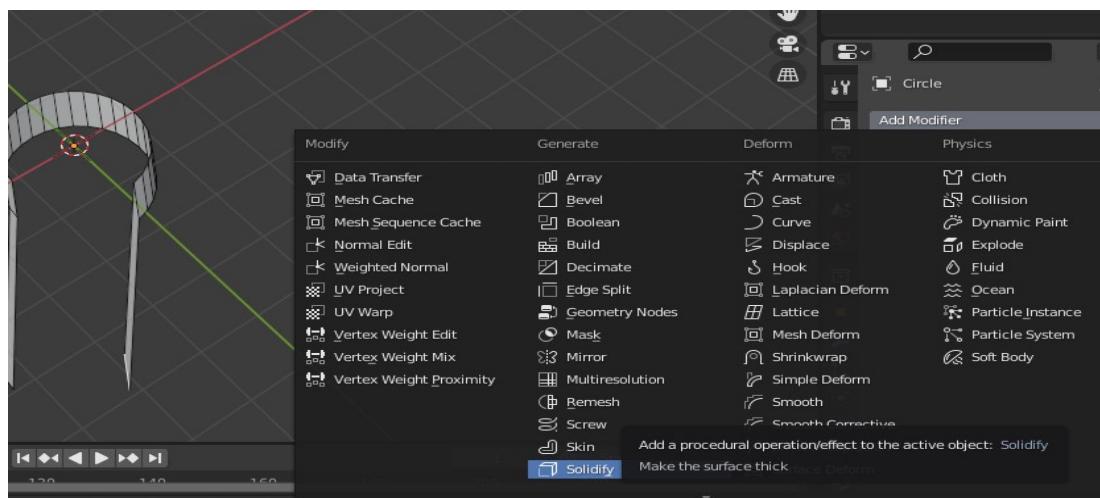
Step 2: Switch to Edit Mode. Delete bottom part of circle by hitting “delete” from keyboard then choose vertices.



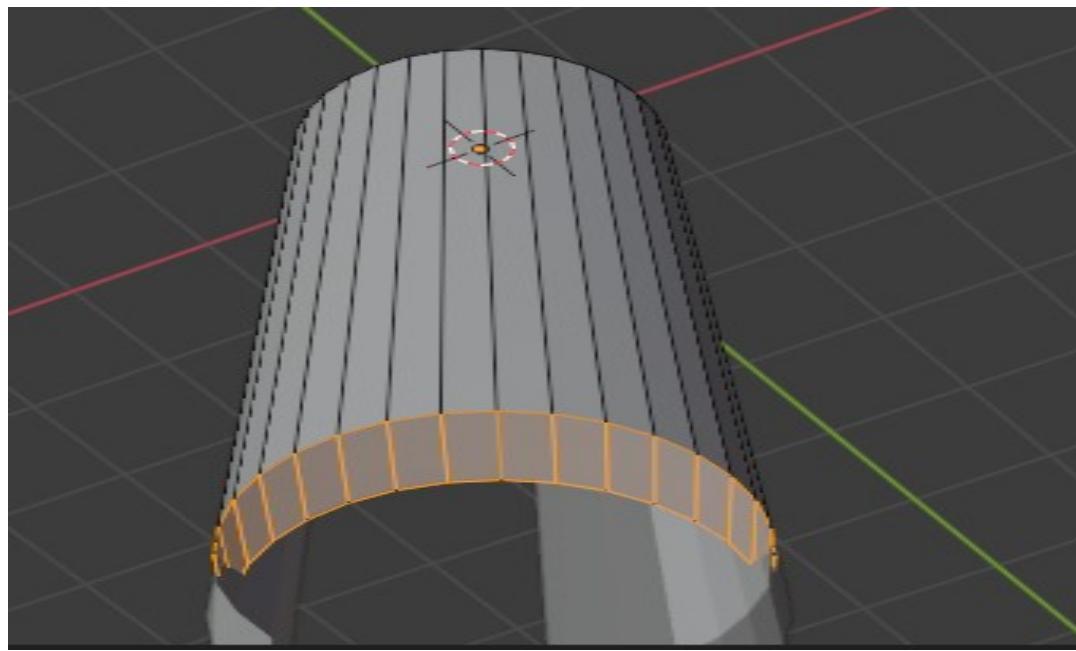
Step 3: Press “E” ie Extrude the object. Go to “edge select mode” and choose Edges, then hit “E” it extrudes down -words.



Step 4: Choose modifier menu, then click on modifier and choose “Solidify”. You can increase thickness of object then click “Apply”.



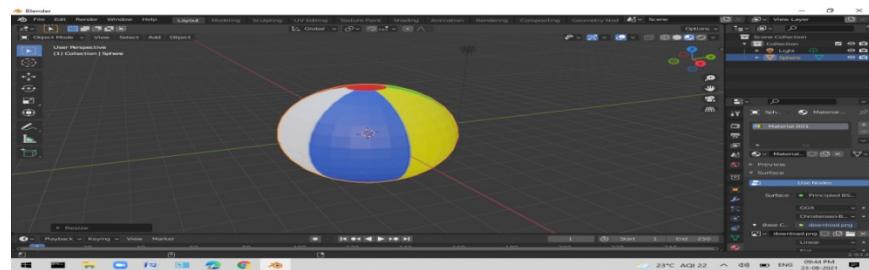
Step 5: Hit “E” Extrude whole object.



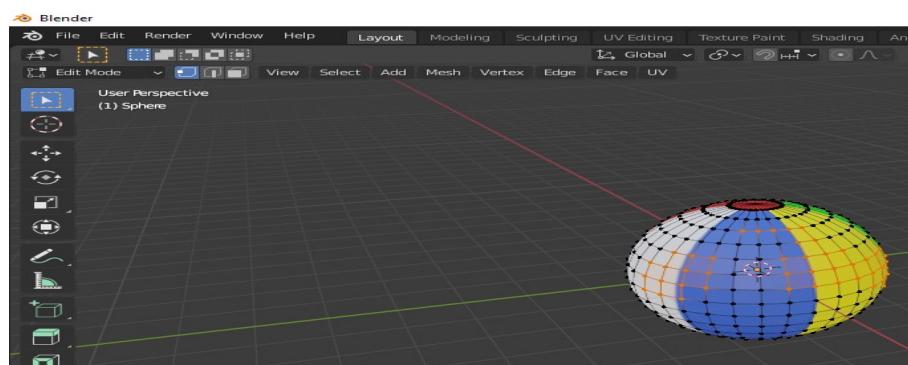
15. Change the structure of objects by editing vertices, Edges, Faces and transform the same and observe the changes.

Editing vertices

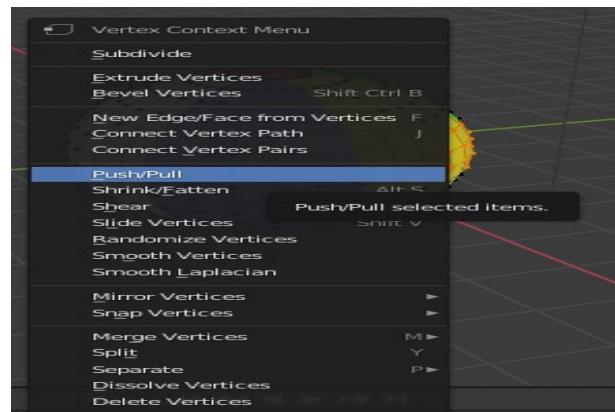
Step 1: Use uv sphere as ball and apply texture. Switch to Edit mode.



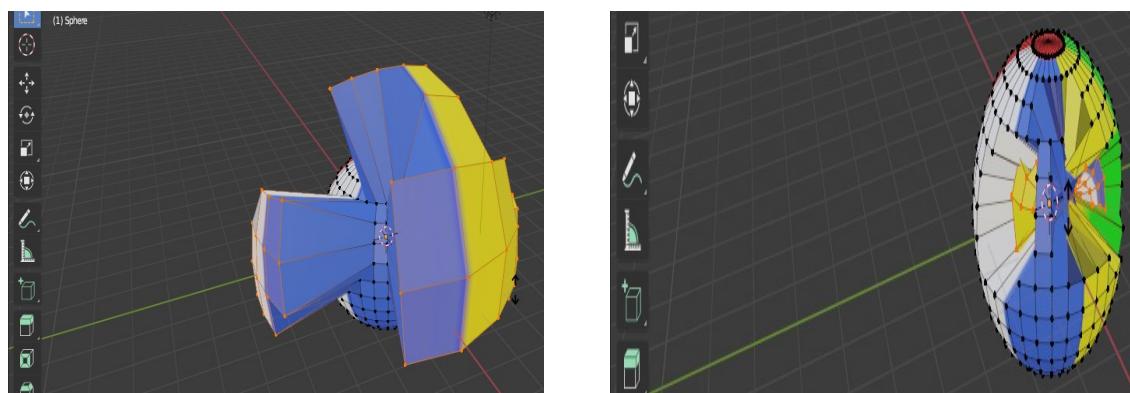
Step 2: Choose “Vertices mode” and select vertices.



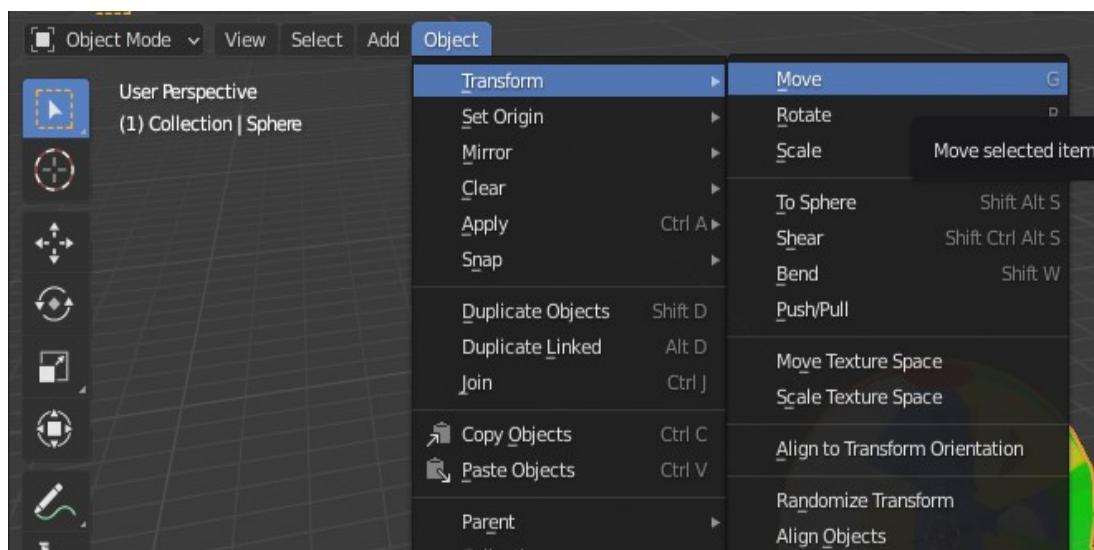
Step 3: Make right click on selected vertices and choose push/pull option from vertex context menu.

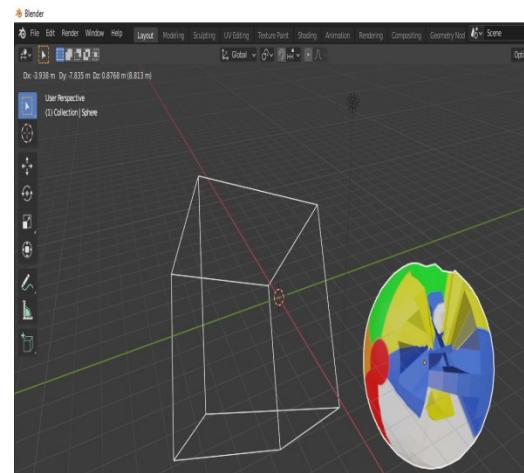
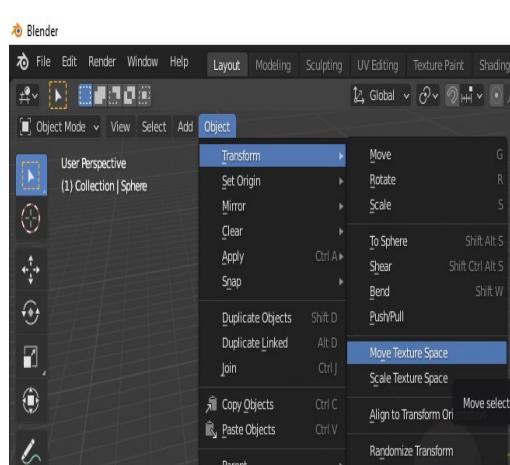
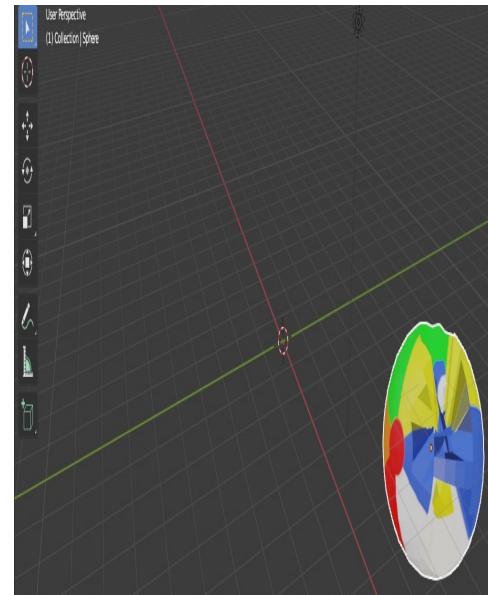
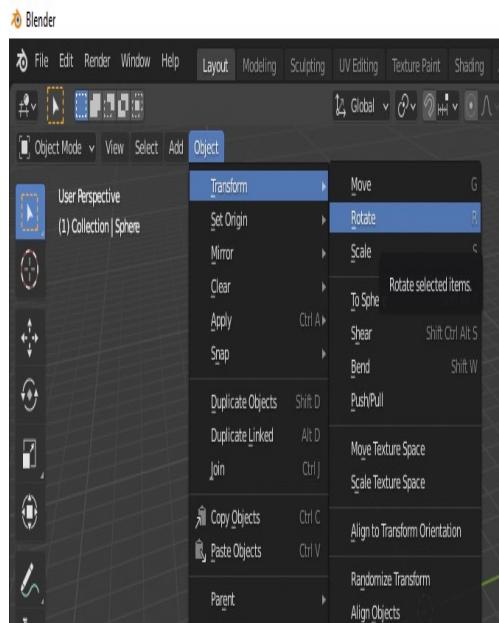
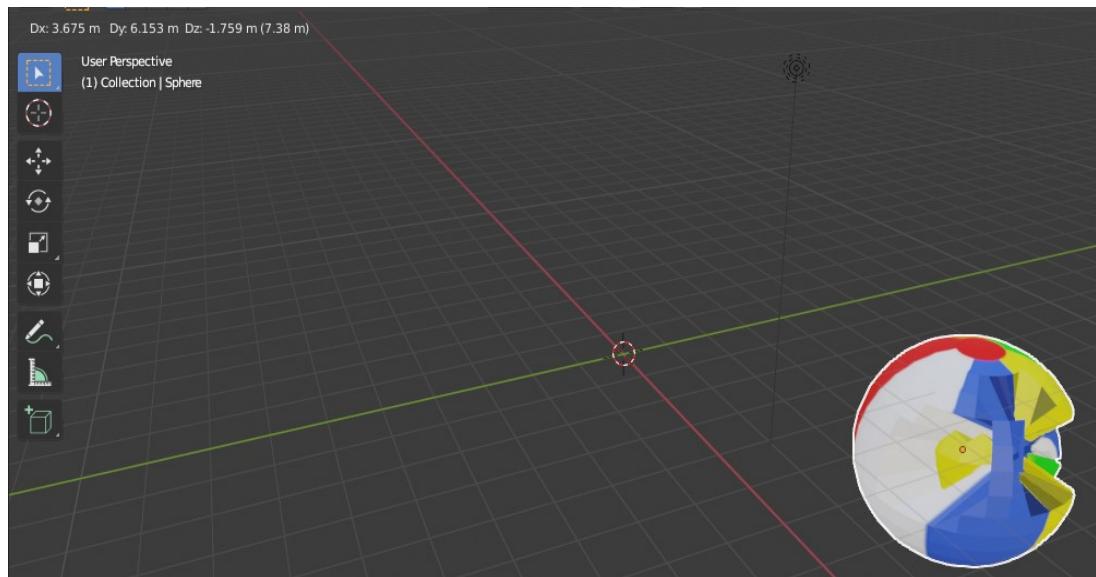


Step 4: obtain push /pull result.



Transform: Move, Rotate, Scale and Move texture space(object mode)

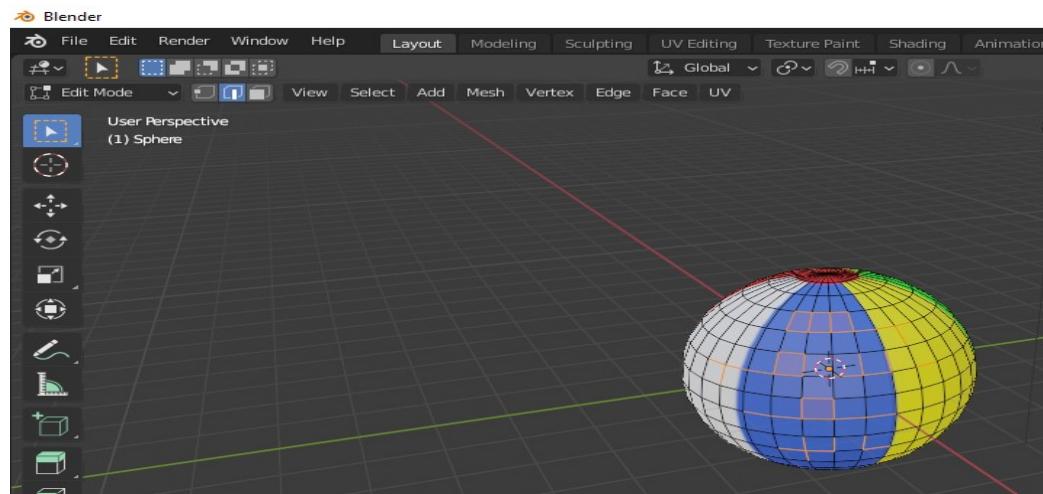




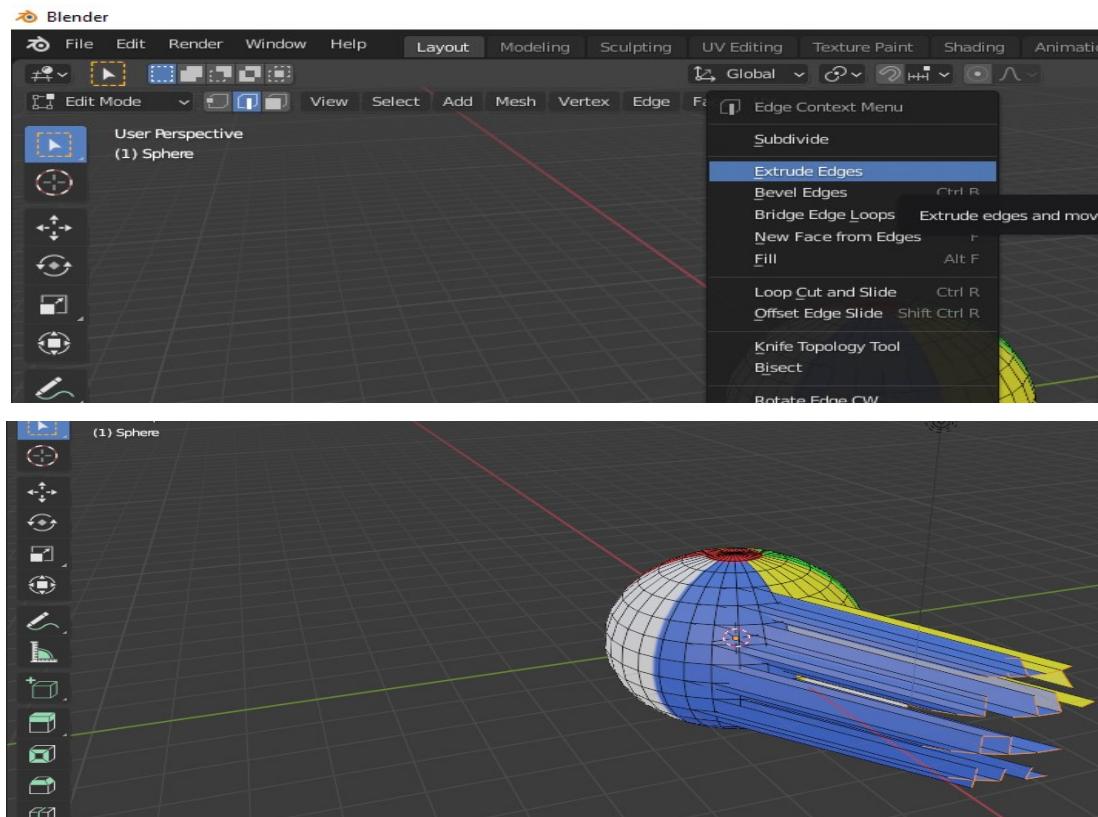
Editing edges

Step 1: Use uv sphere as ball and apply texture. Switch to Edit mode.

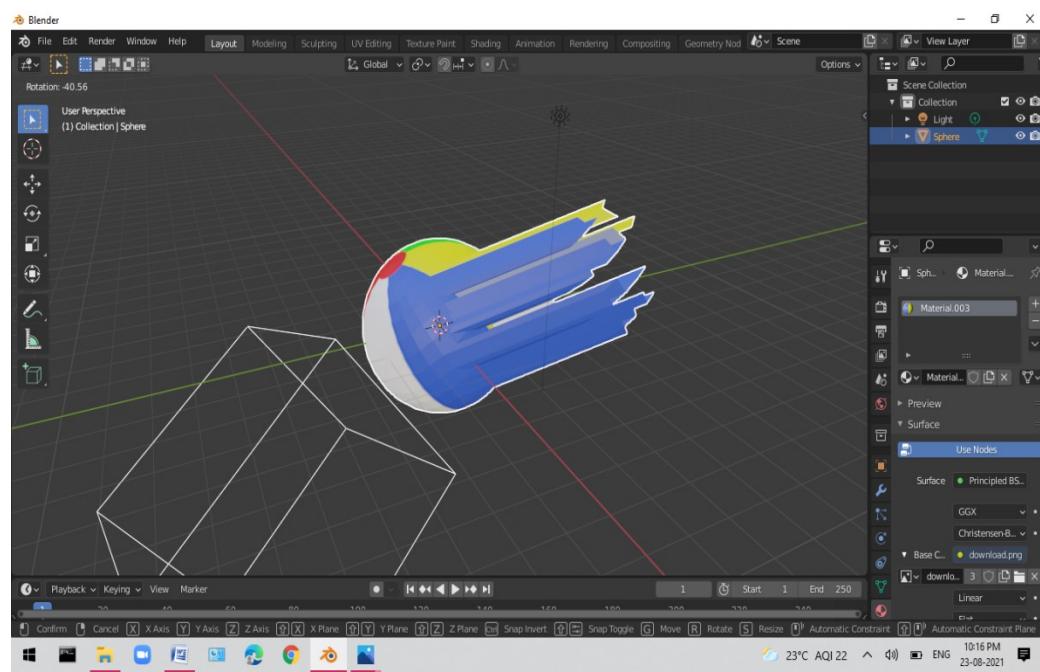
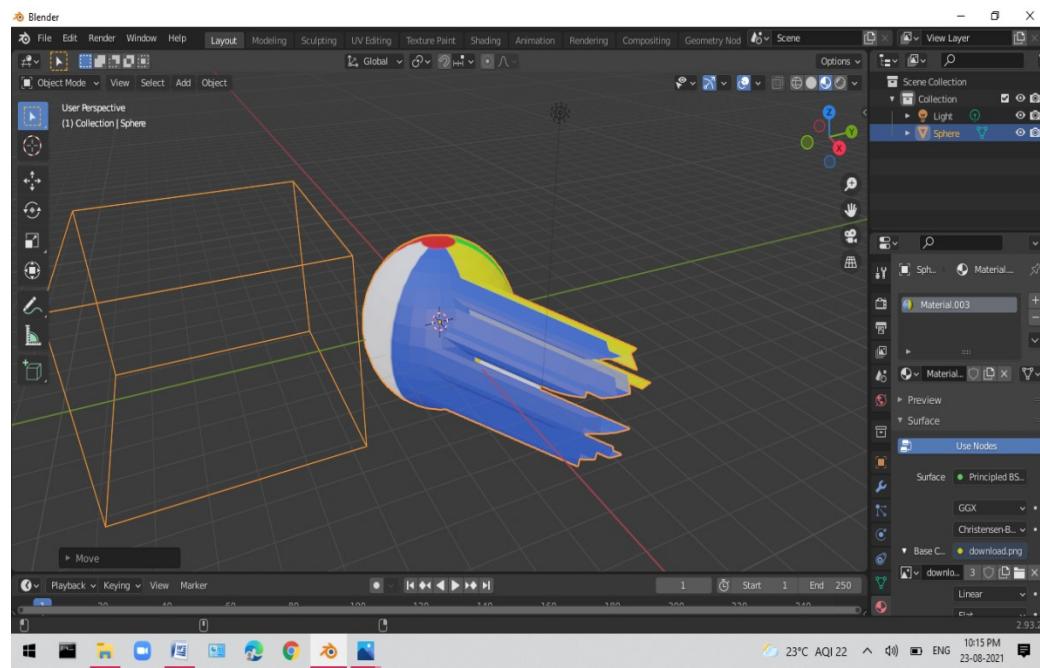
Step 2: choose “Edge mode” and select edges.



Step 3: make right click on selected edges and choose “Extrude edges” from edge context menu.



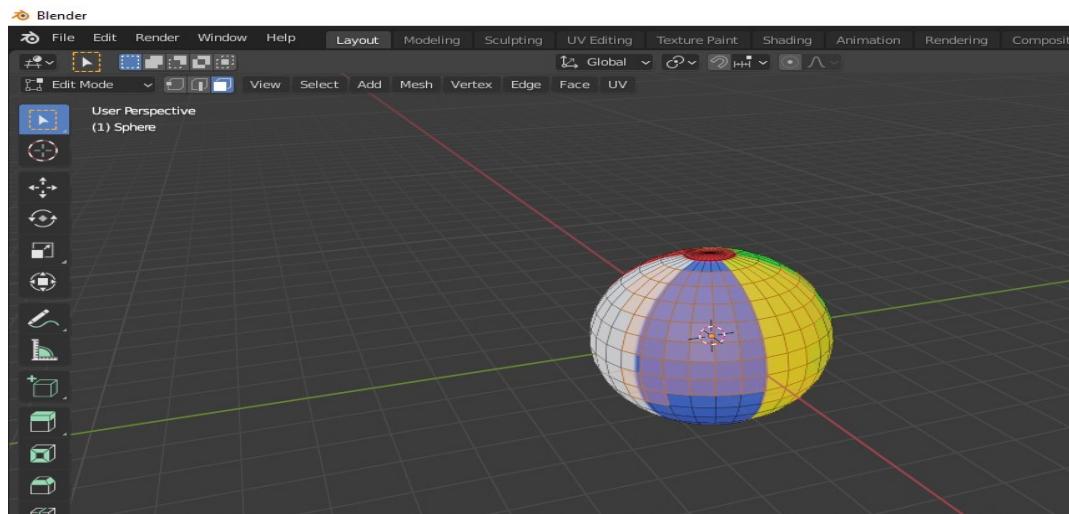
Transform: Move texture space, Rotate.



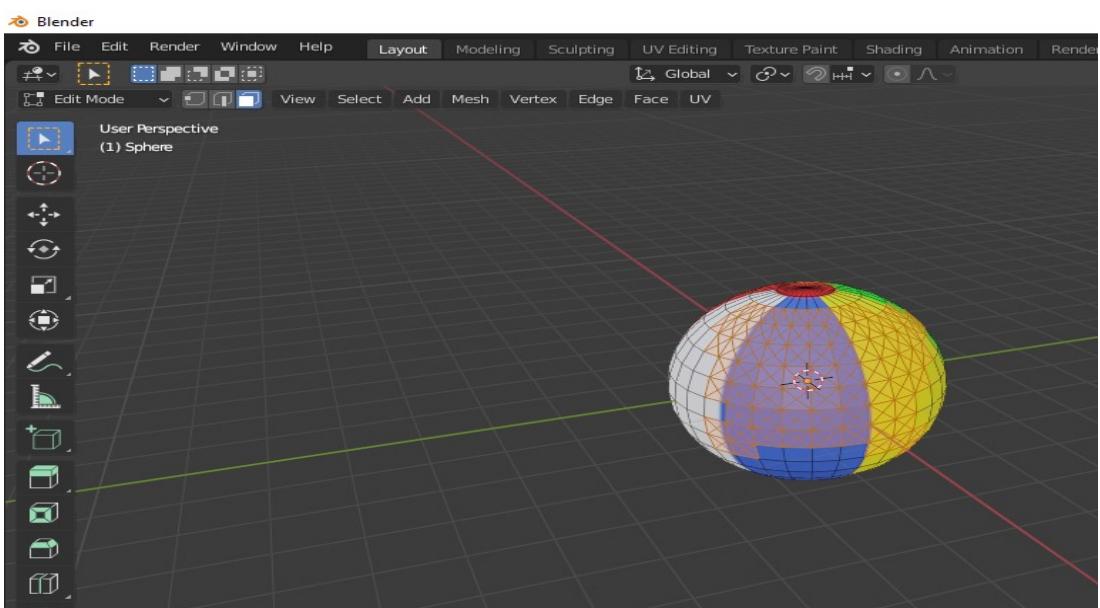
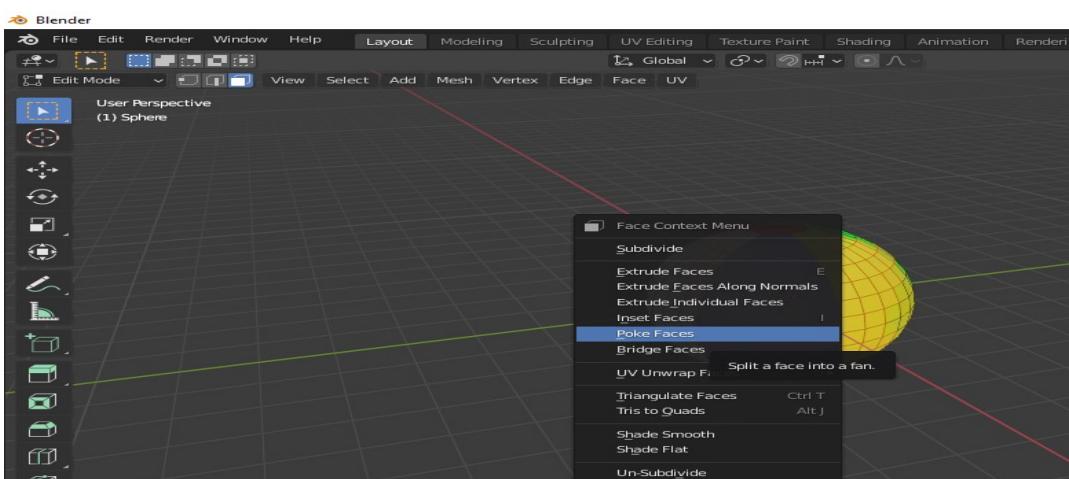
Editing faces

Step 1: Use uv sphere as ball and apply texture. Switch to Edit mode.

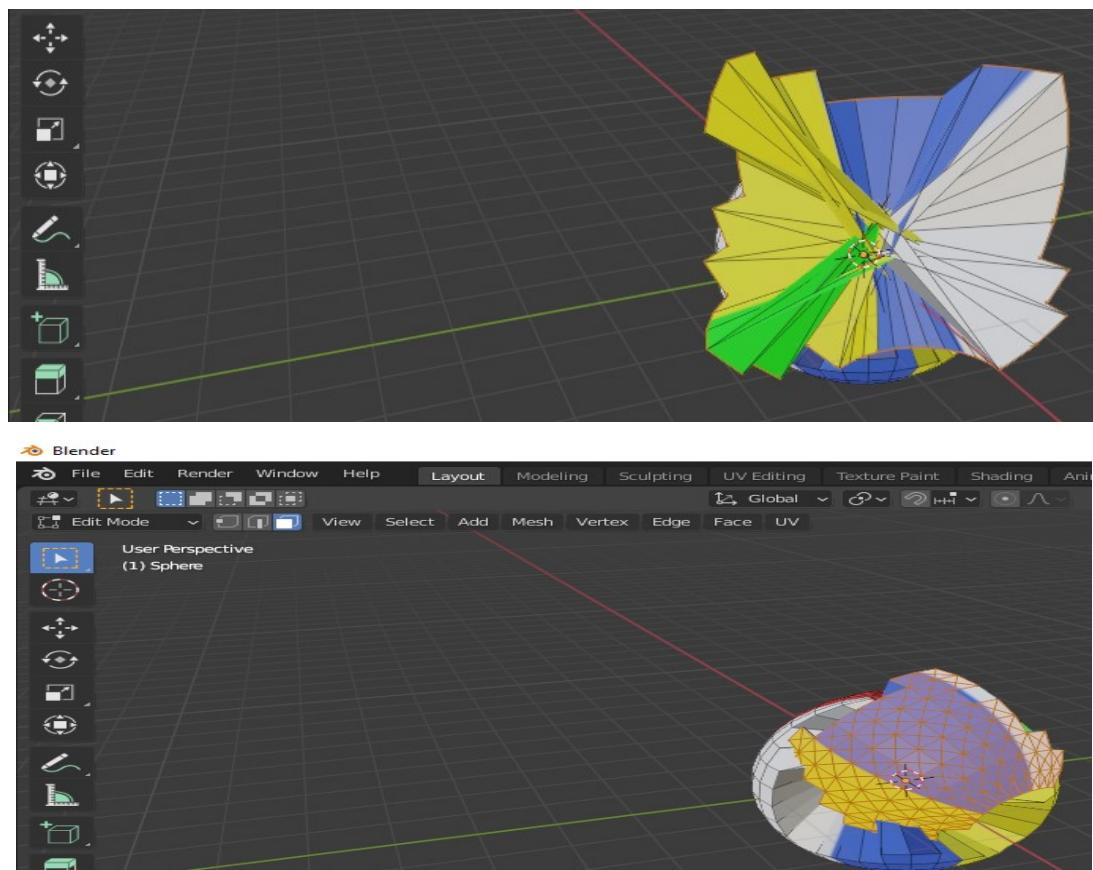
Step 2: choose “Face mode” and select Faces.



Step 3: Make right click on object and choose “Poke Face”.

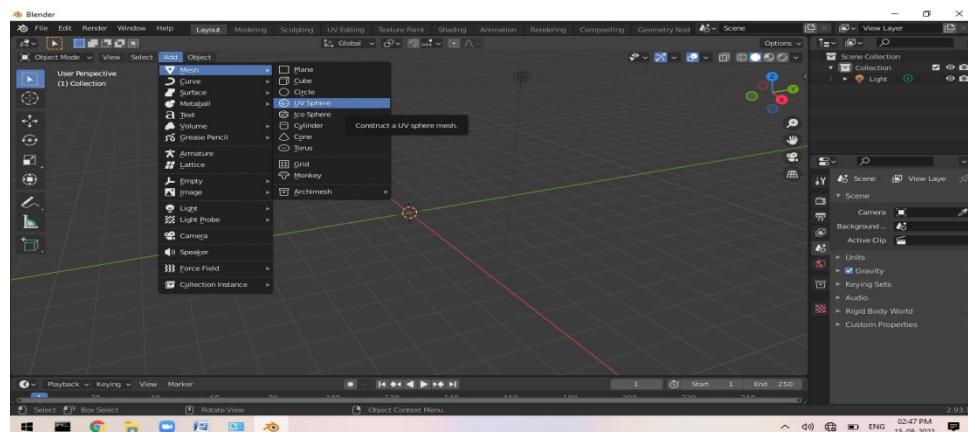


Transform: Scale And Rotate

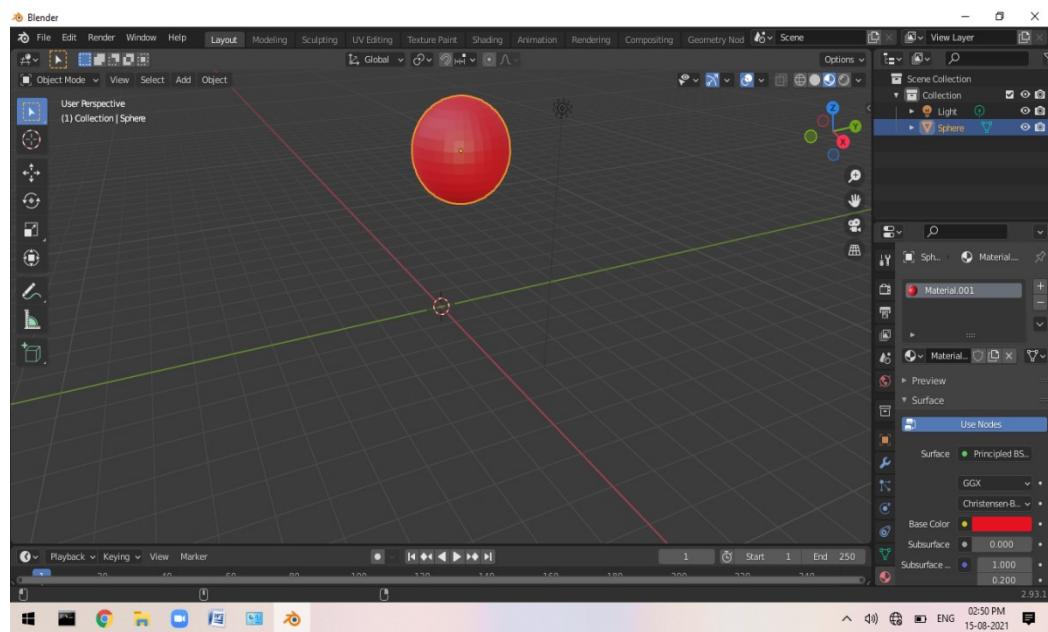


16. Design a red ball lying on green grass. Apply suitable texture and render the same.

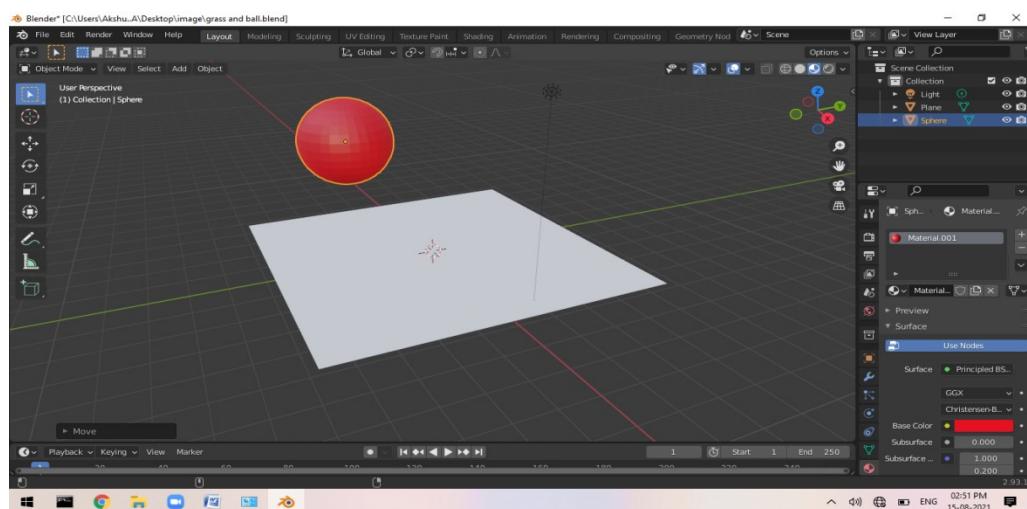
Step 1: Add>Mesh>UV sphere and scale the object by hitting “s”.



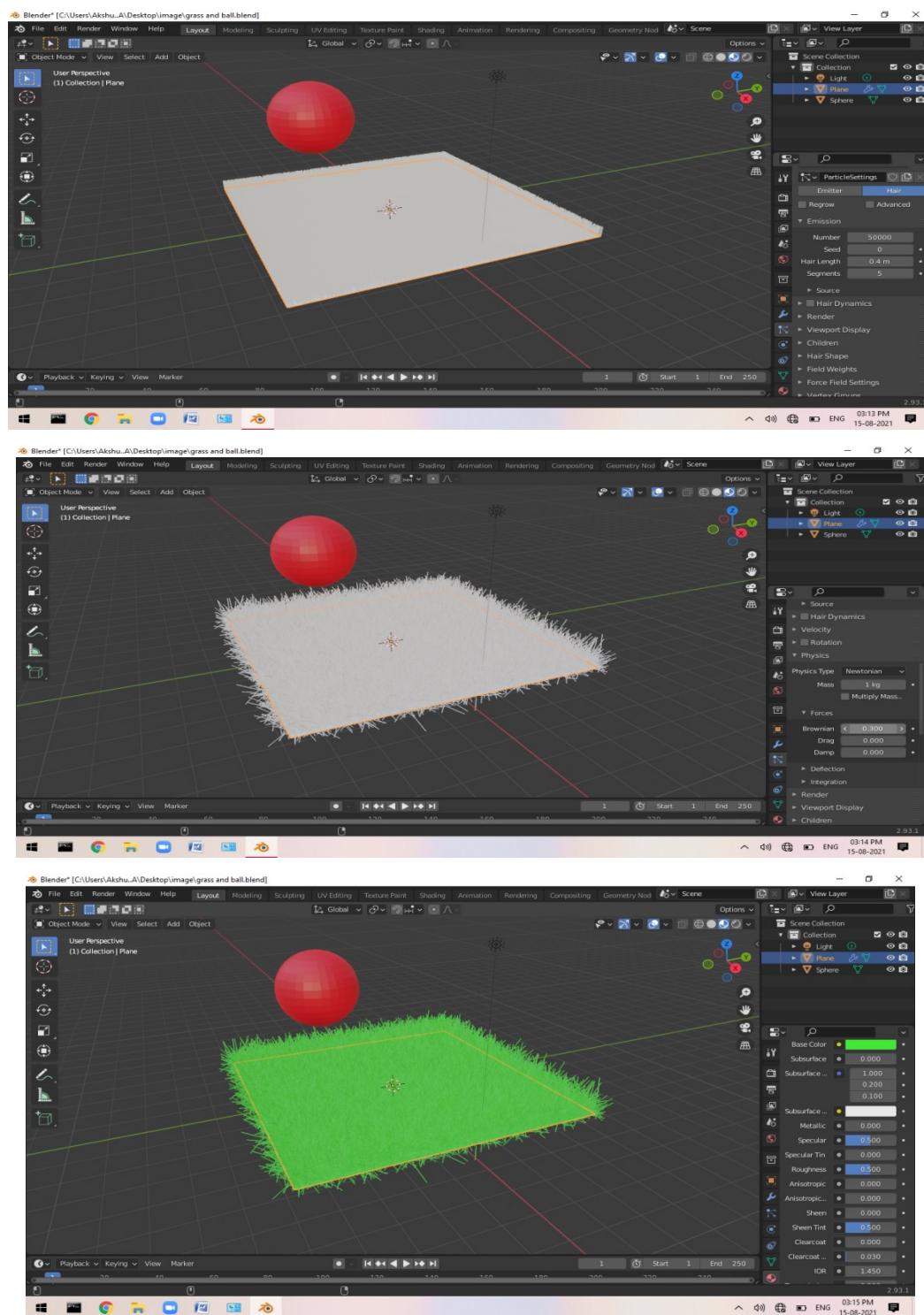
Step 2: Go to “Material Properties” then choose “Base color” for object. Apply suitable color to object.



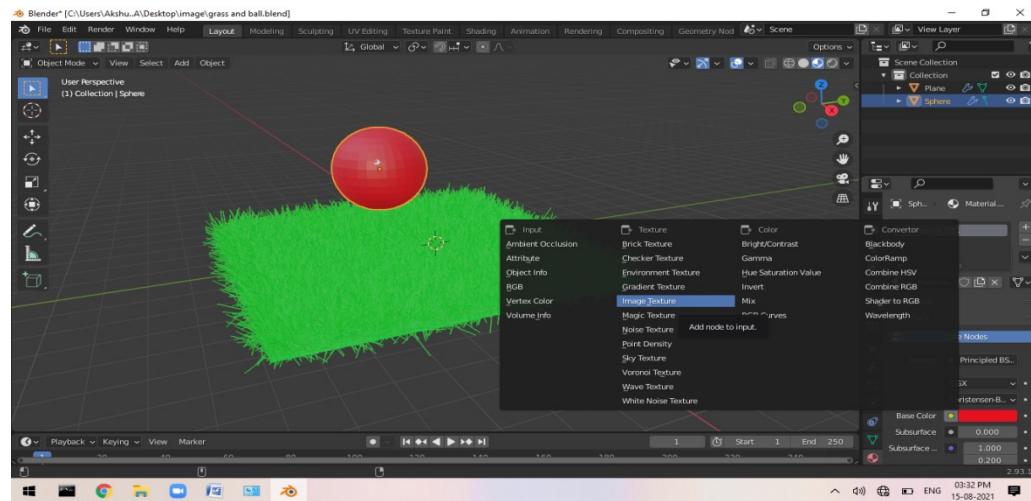
Step 3: Add>Mesh>Plane and scale the object by hitting “s”.



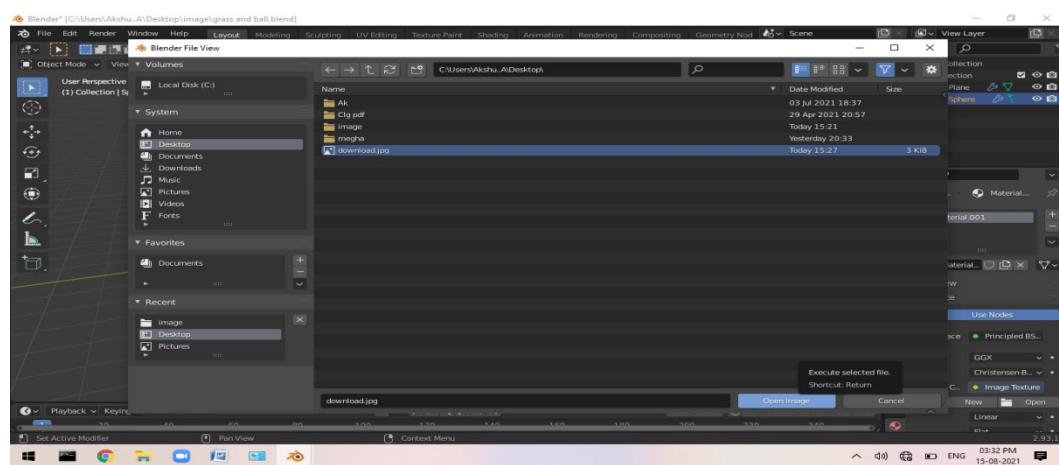
Step 4: Go to “Particle Properties” then click “+” and choose Hair option. Set hair length as “0.4” and number of hairs are of “50000”. Click on “Advanced” tab. Select “Physics>Force” set brownian as “0.3” and choose “Green color” as base color.



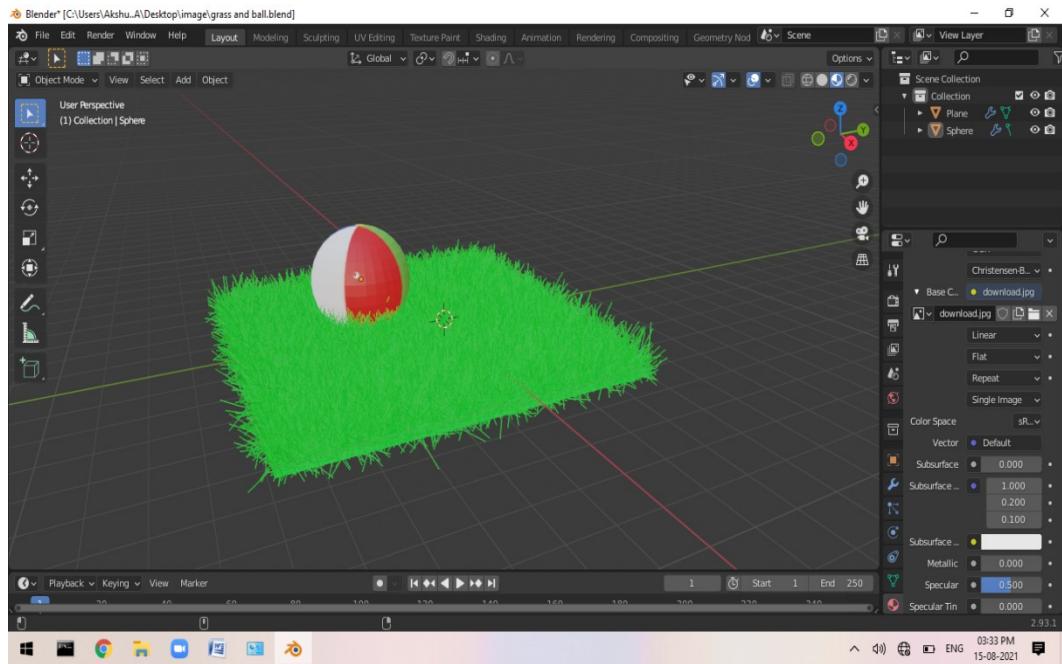
Step 5: In the “materials” tab under the “surface” section, search for “Base color” and click on the small dot to its right. From the many new options displayed, click on “Image texture”.



Step 6: Click open then choose file and click on “open image”.



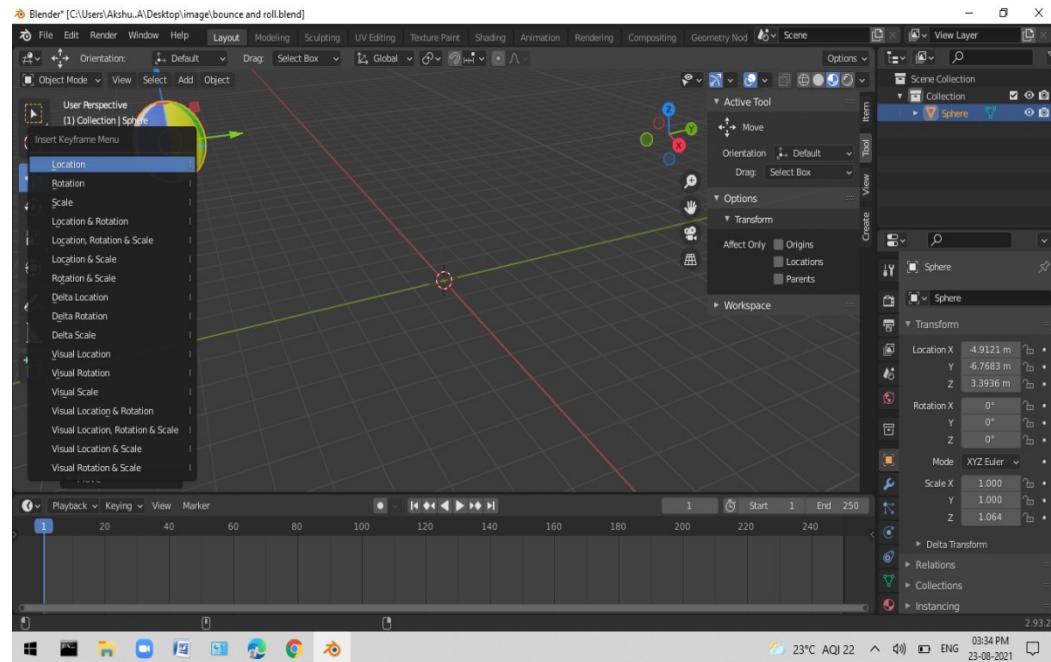
Step 7: Texture will be appeared on the selected object.



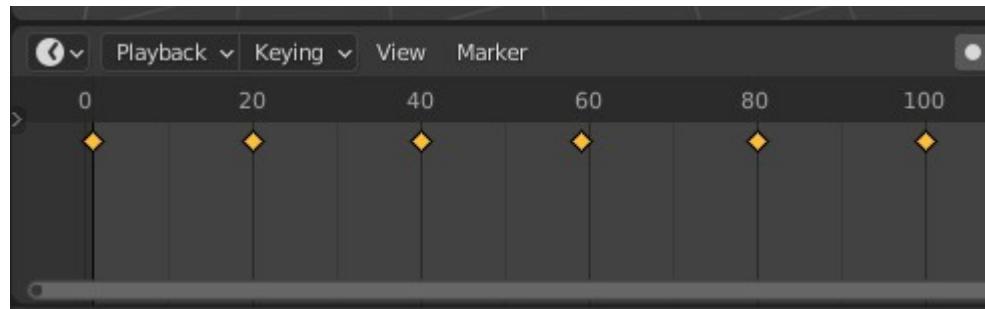
17. Animate the ball in Ex.15 (both rigid and elastic) to bounce thrice and roll. Use suitable animation Principles. Add boooing sound when the ball bounces.

Step 1: Use Texture ball which is designed in Experiment number 16.

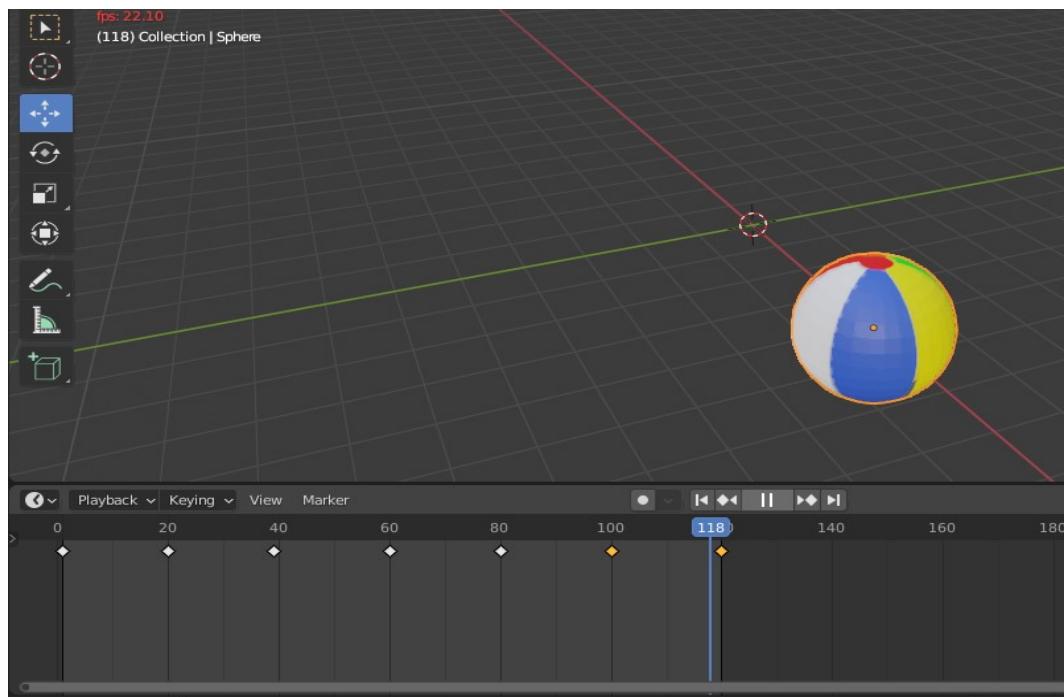
Step 2: In the timeline, set scrollbar at 1st frame. Choose ball position and click “I” from keyboard, then choose “Location”.



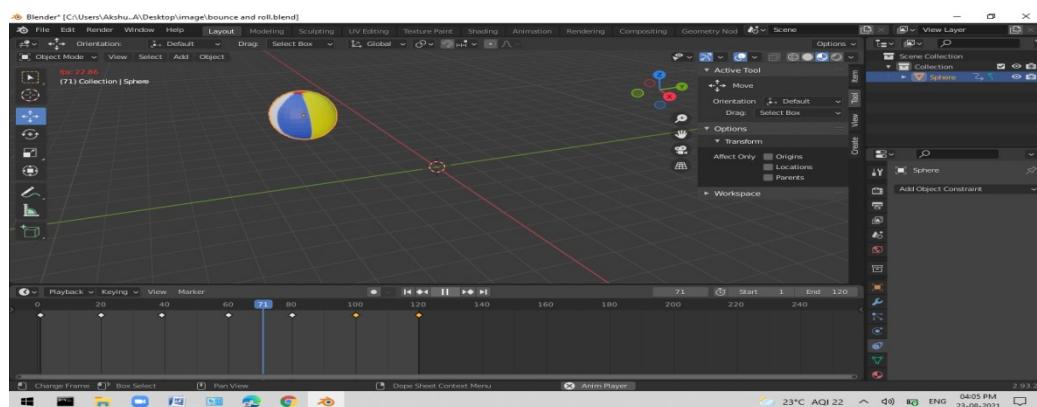
Step 3: Move Playhead to 20th frame. Choose ball position and click “I”, then choose location. Repeat the same steps upto three bounce.

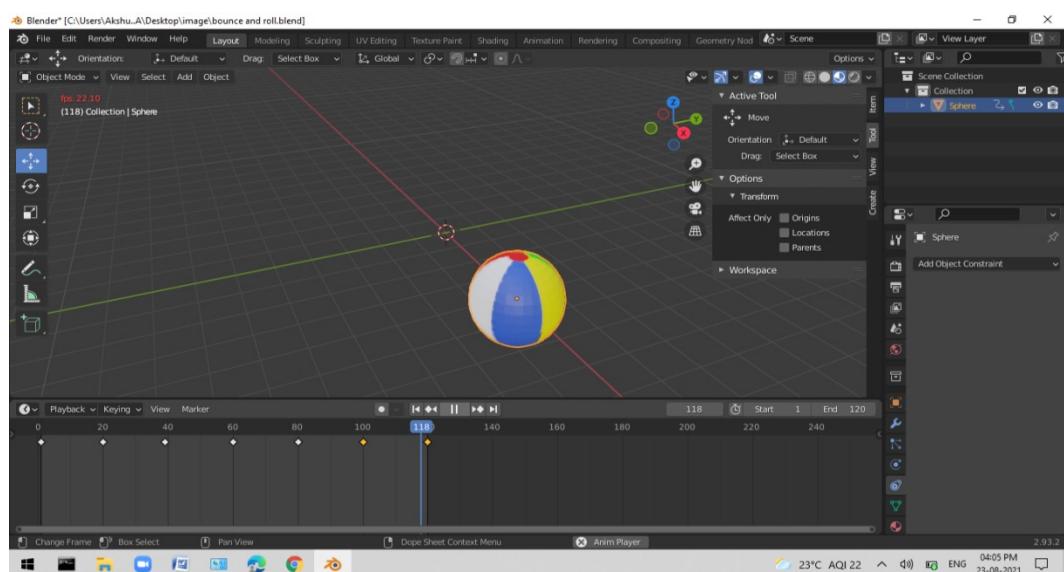
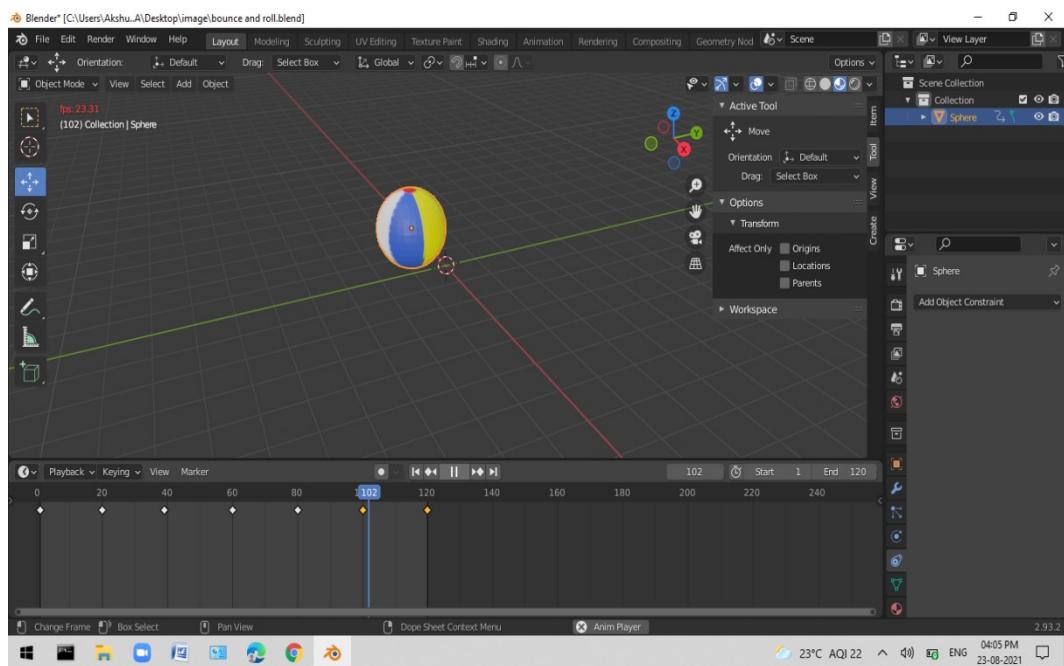


Step 4: Move playhead to 120th frame. Select Ball, move it towards “Z” axis then click “I” and choose “Location”.

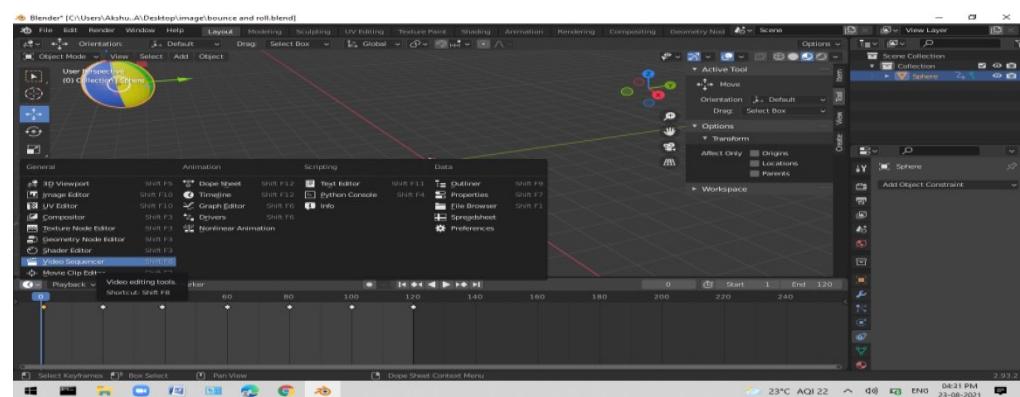


Step 4: Click on “play button” and dice will bounce and roll depends on keyframes.

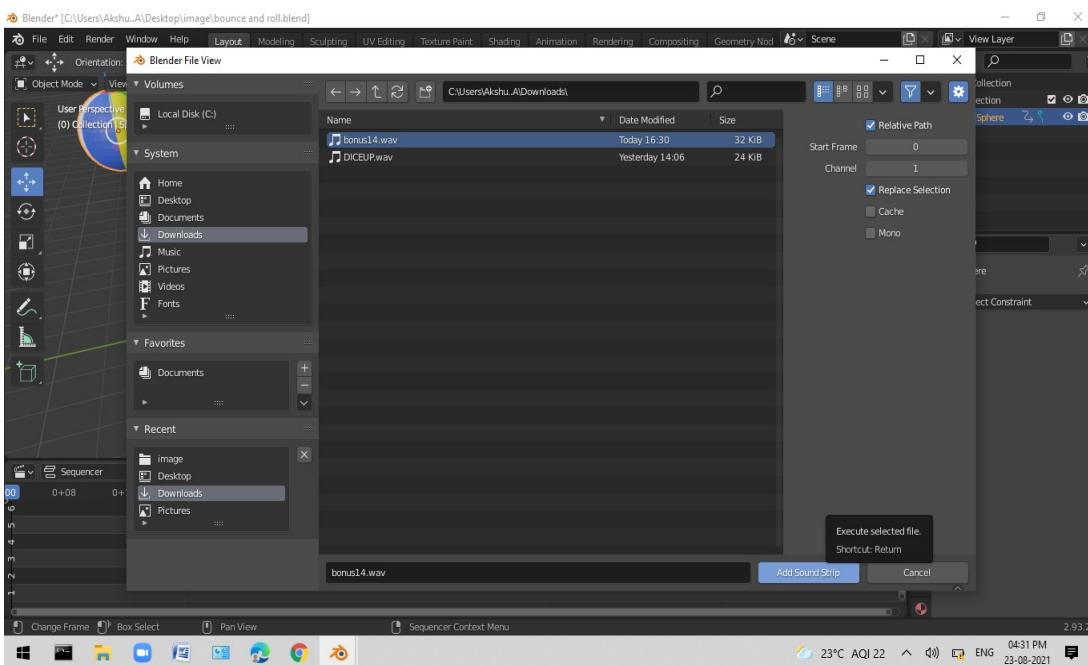
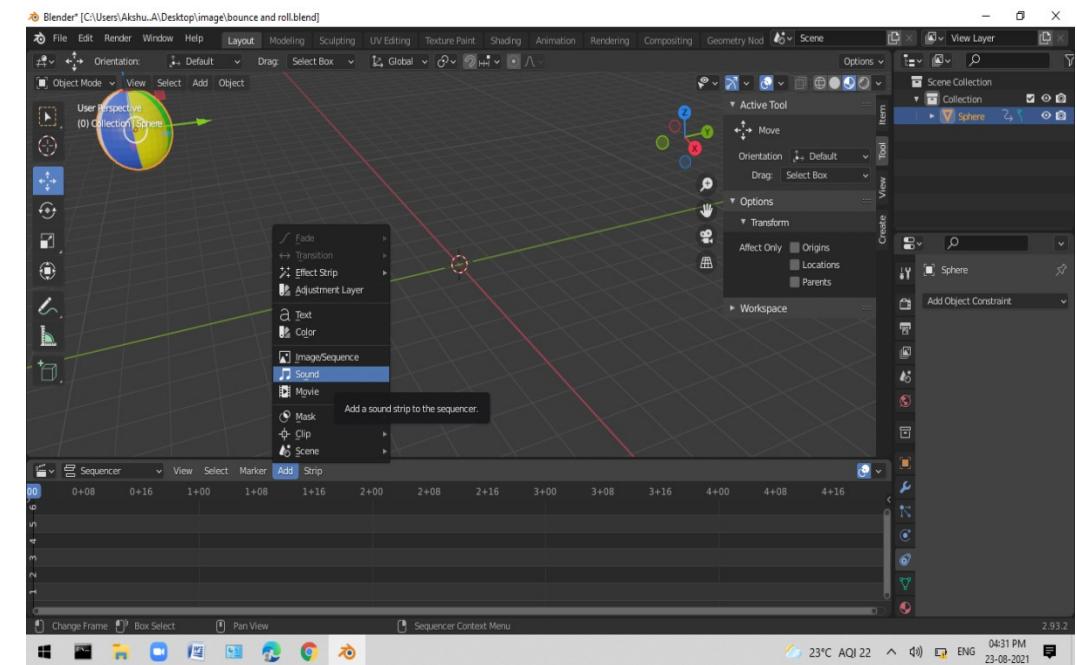




Step 5: You can add “boooing” sound when the ball bounces in video sequence.

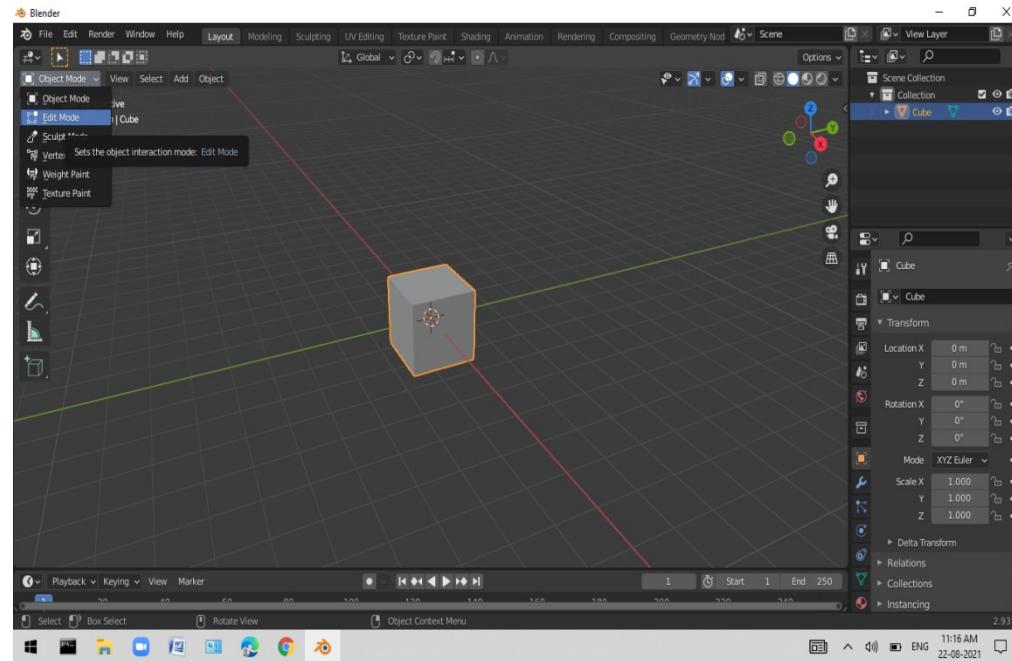


Step 6: click “Add” and choose “Sound”&locate sound file that you want into your animation.Click “Add sound strip” button.

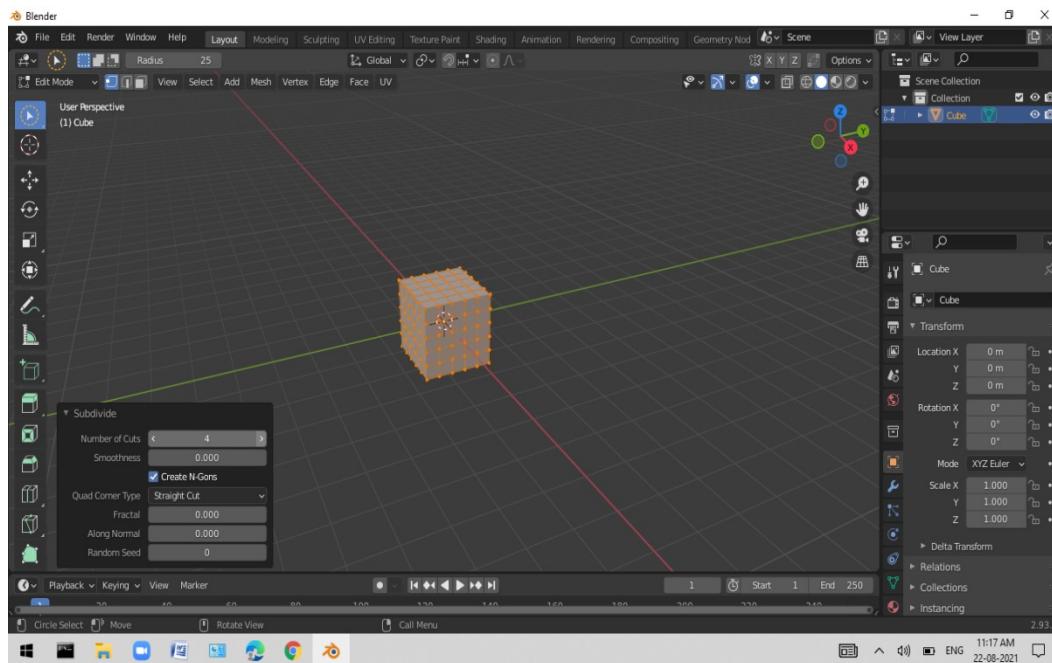


18. Design two playing dice and animate the same. Add suitable sound for dice fall.

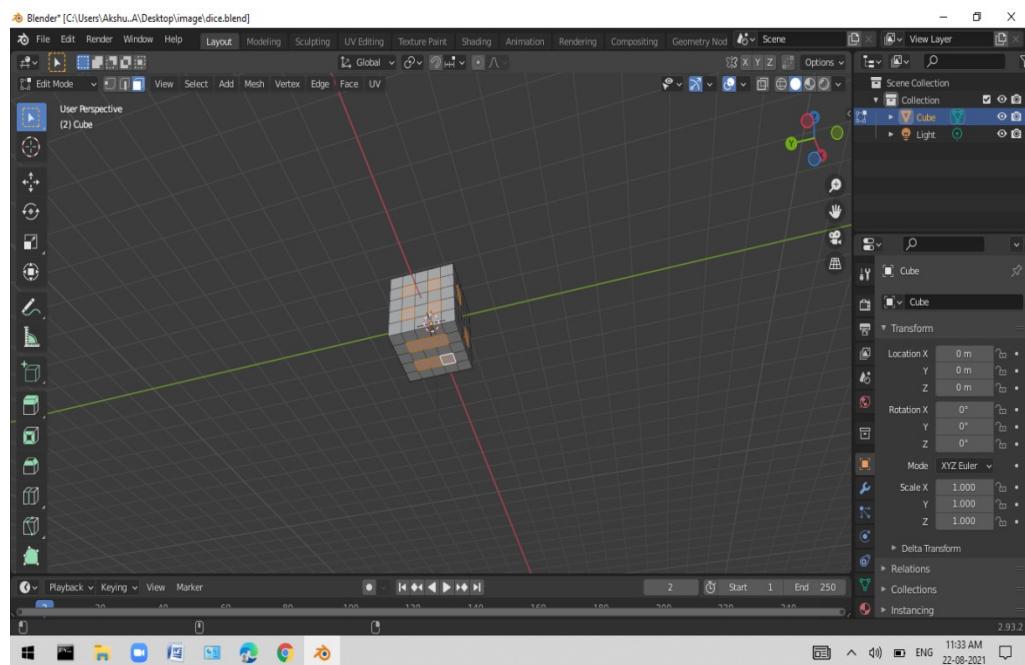
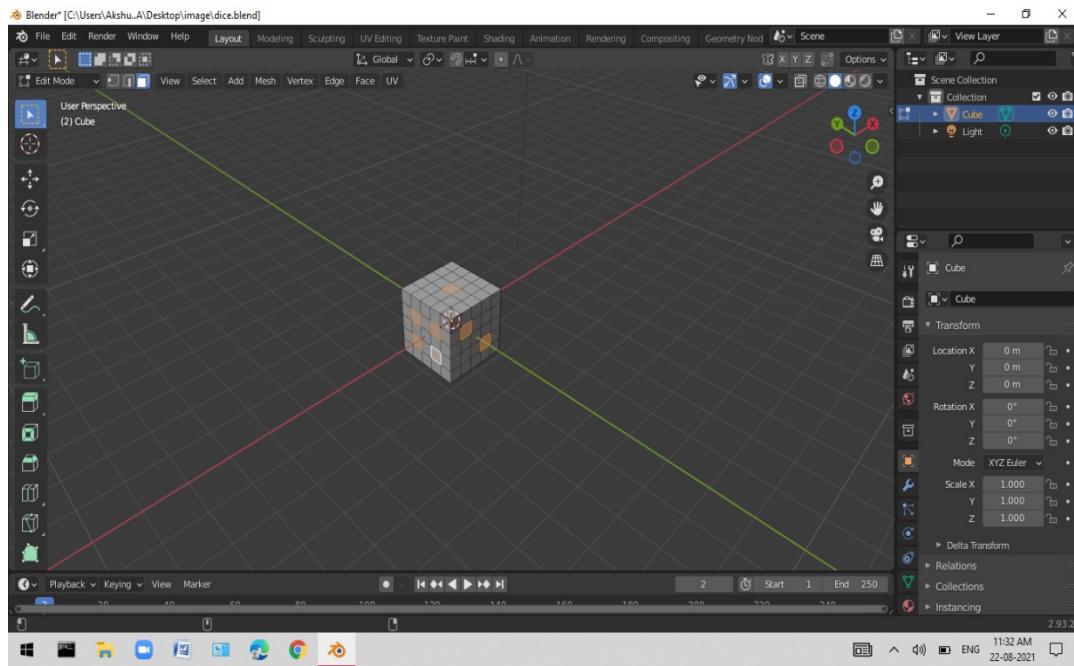
Step 1: Select cube and Tab into edit mode.

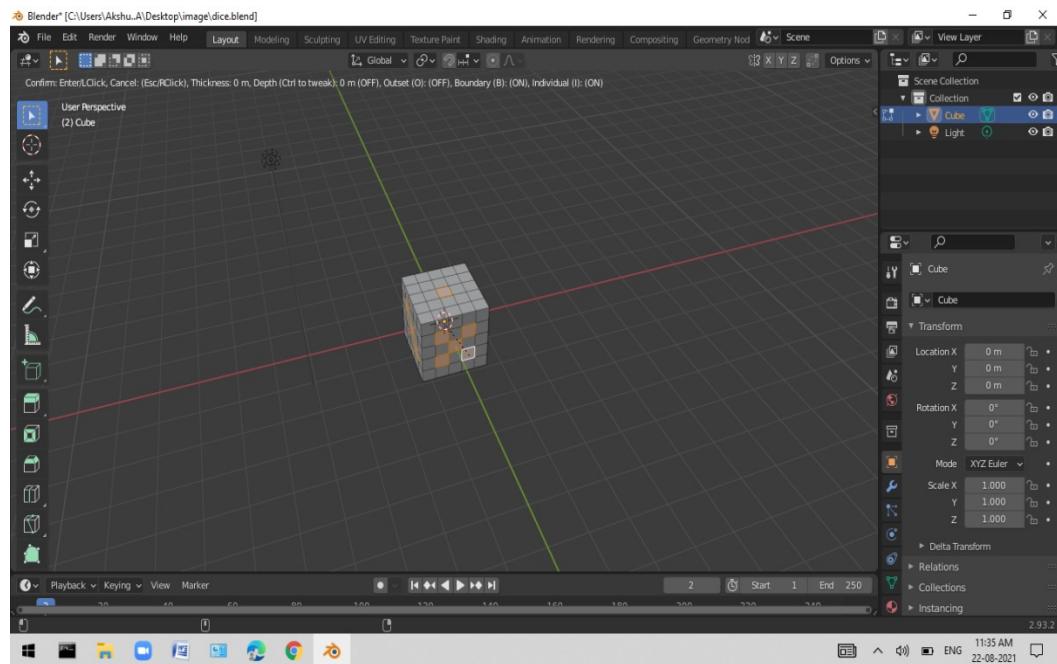


Step 2: right click on cube, choose "Subdivide" then subdivide default cube into 5*5 grid(number of cuts=4).

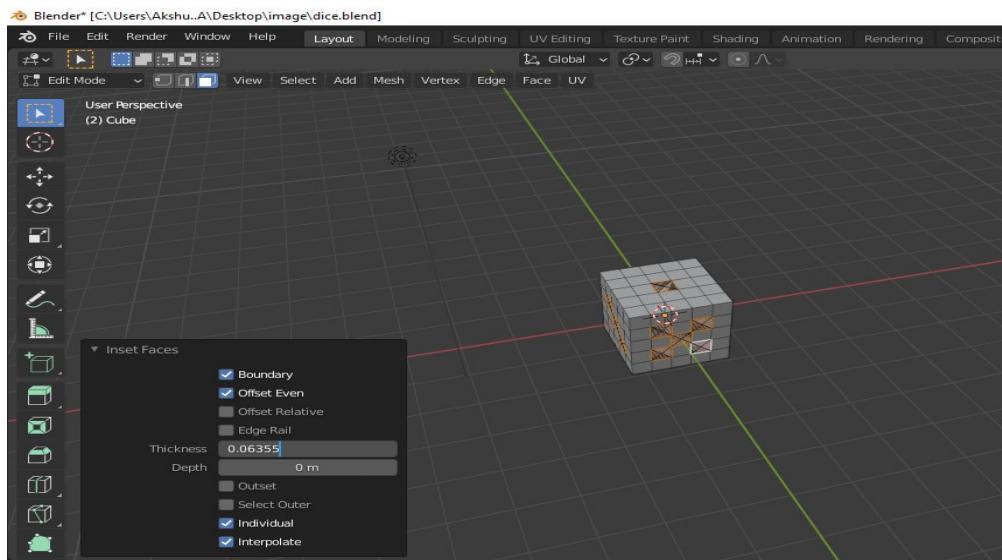


Step 3: choose Face mode and hold shift key &choose faces in top,bottom,front,back,right and left.

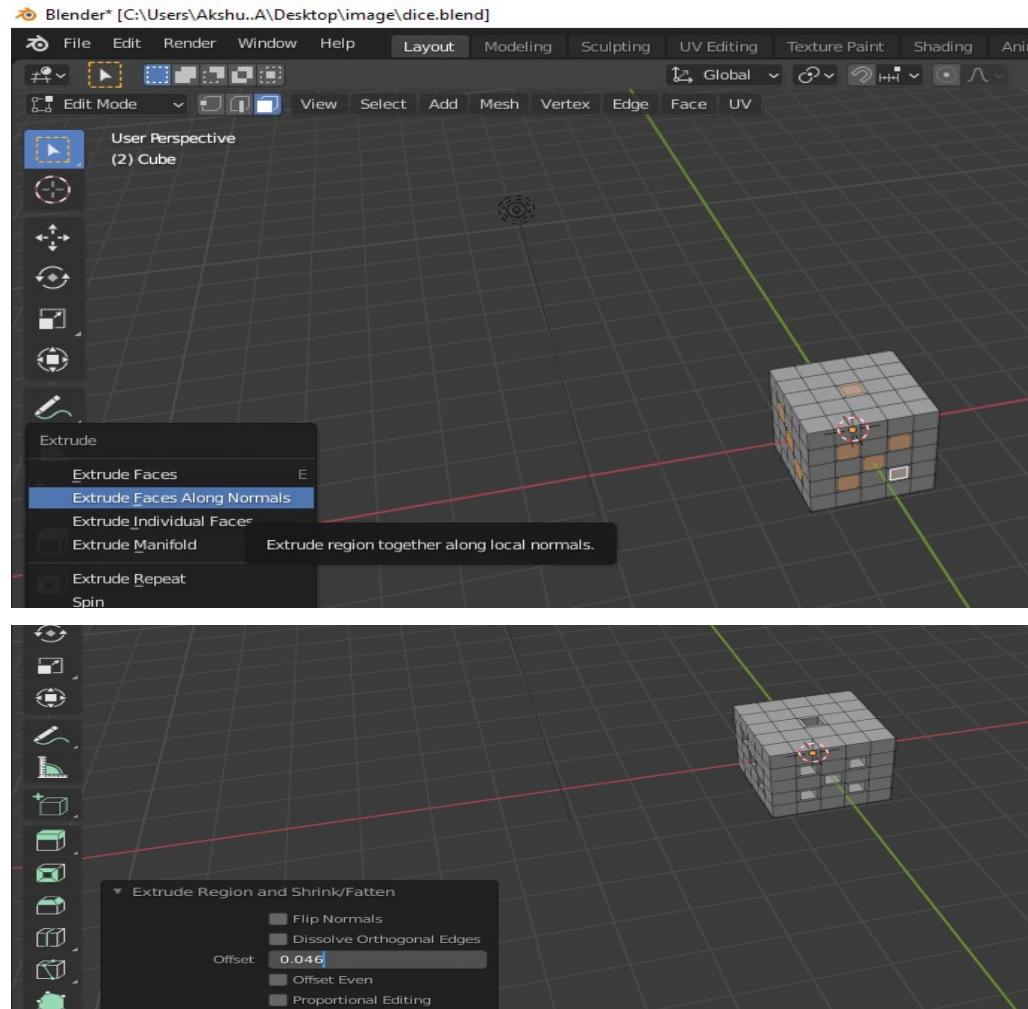




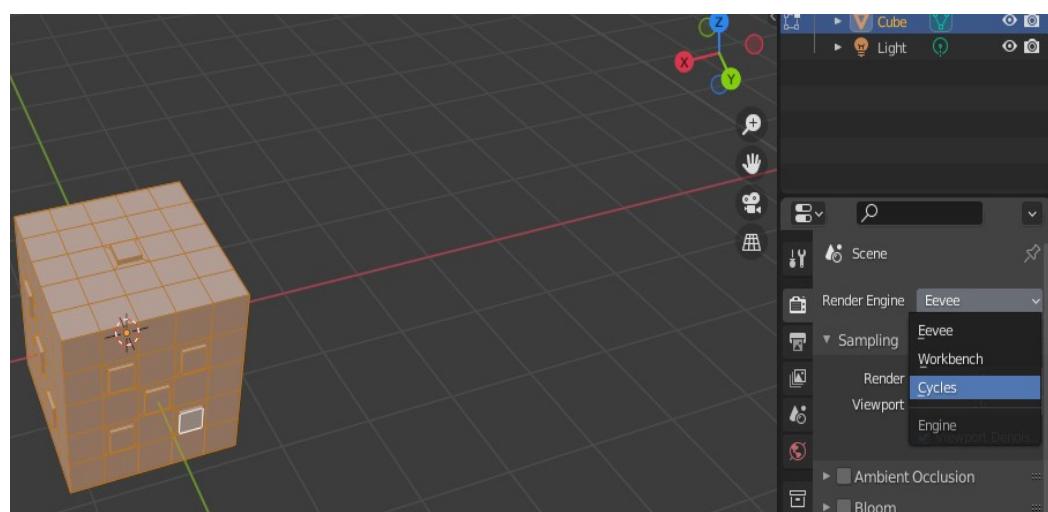
Step 4: Inset each of selected face(make sure to click “I” twice so you are insetting the faces individually. Set the thickness of dice.



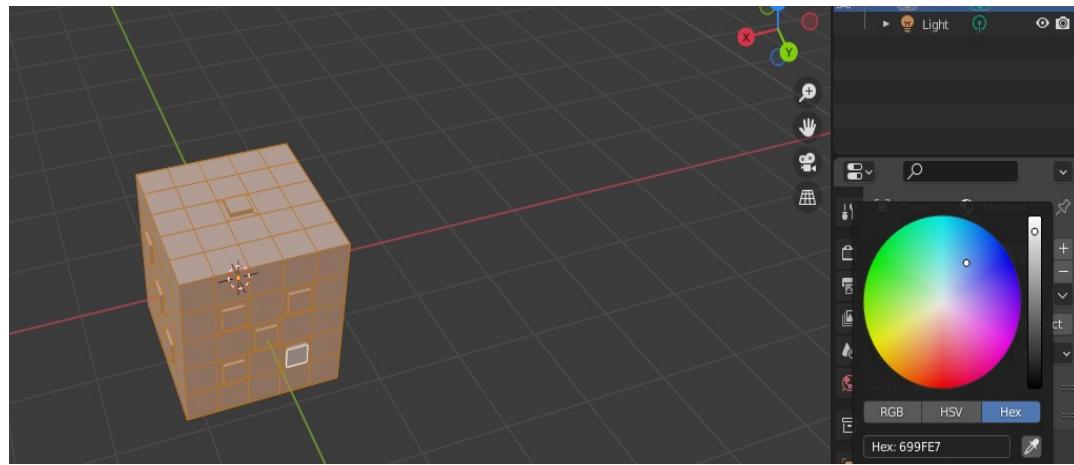
Step 5: Extrude each of selected faces back toward the center of the die. And set offset.



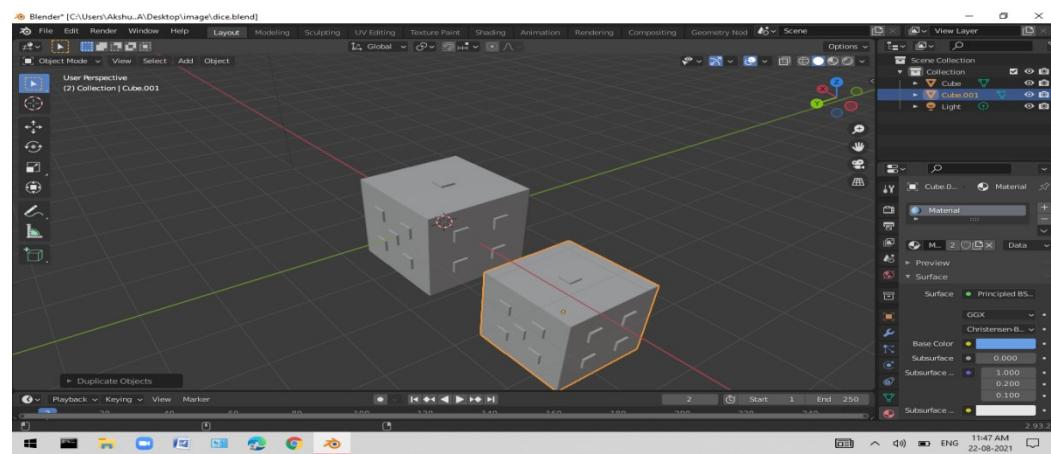
Step 6: click on “Rendering” option then changes to “Cycles” Render.



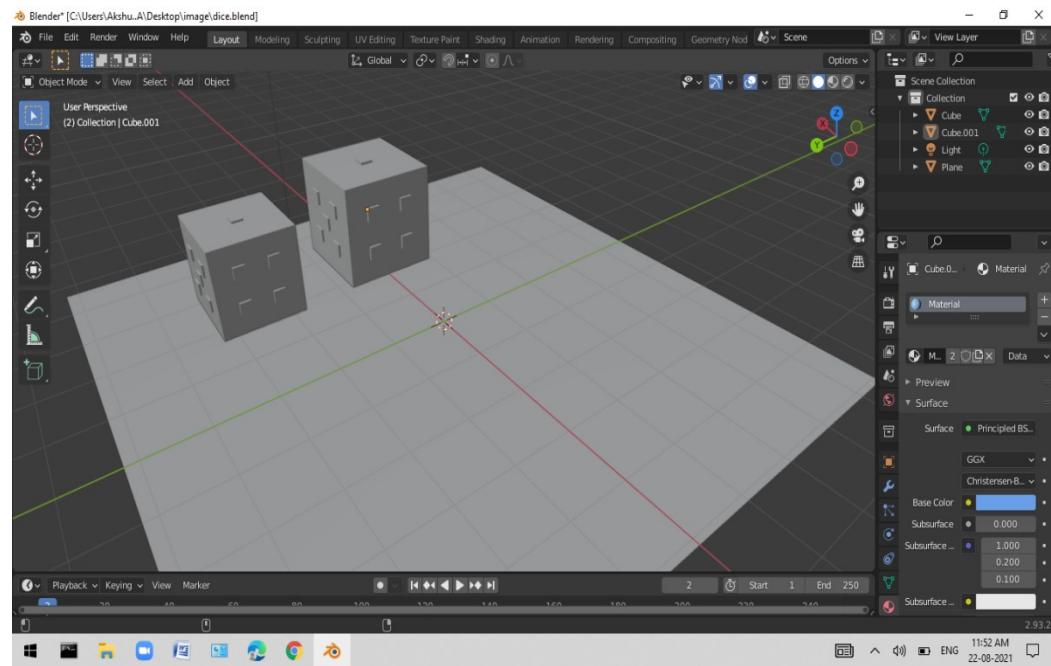
Step 7: Choose “Properties” then change the default material to the desired color(#699FE7).



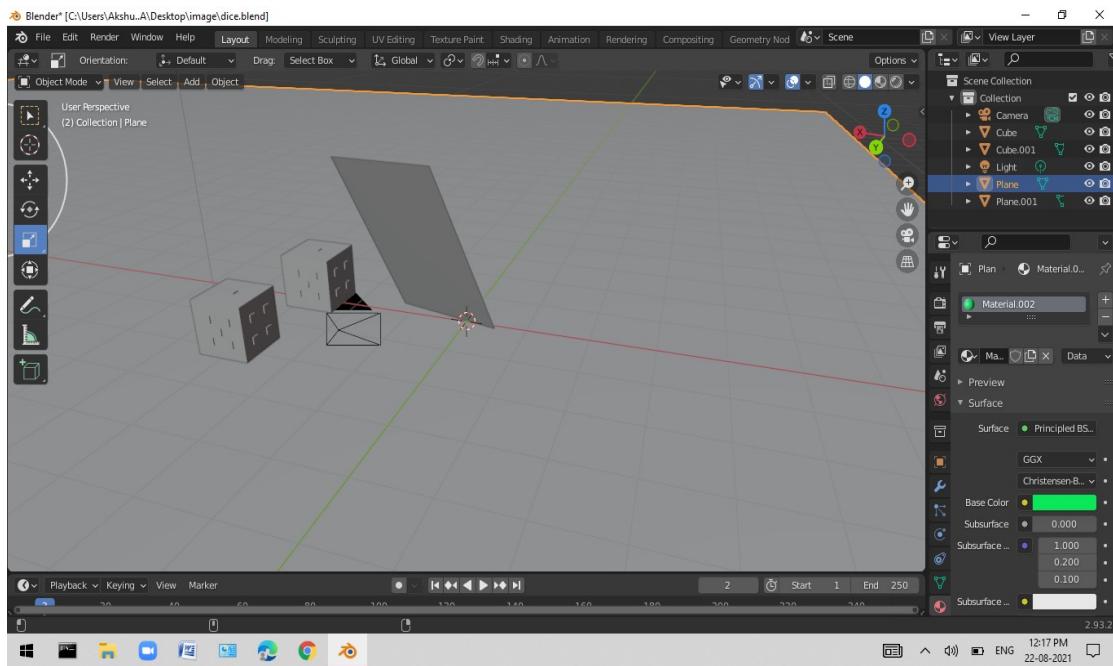
Step 8: Tab into object mode and duplicate a die ,move the new die to the side of old die.



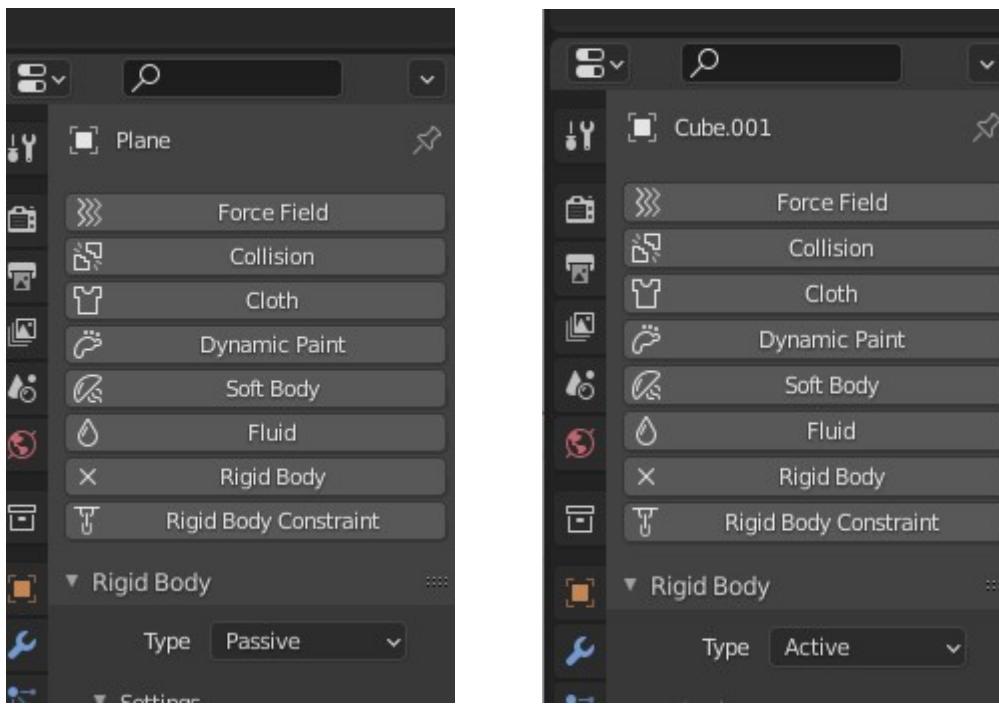
Step 9: Add plane and move it below the dice. Scale the plane by 25 and a material to the plane(#5A974B).



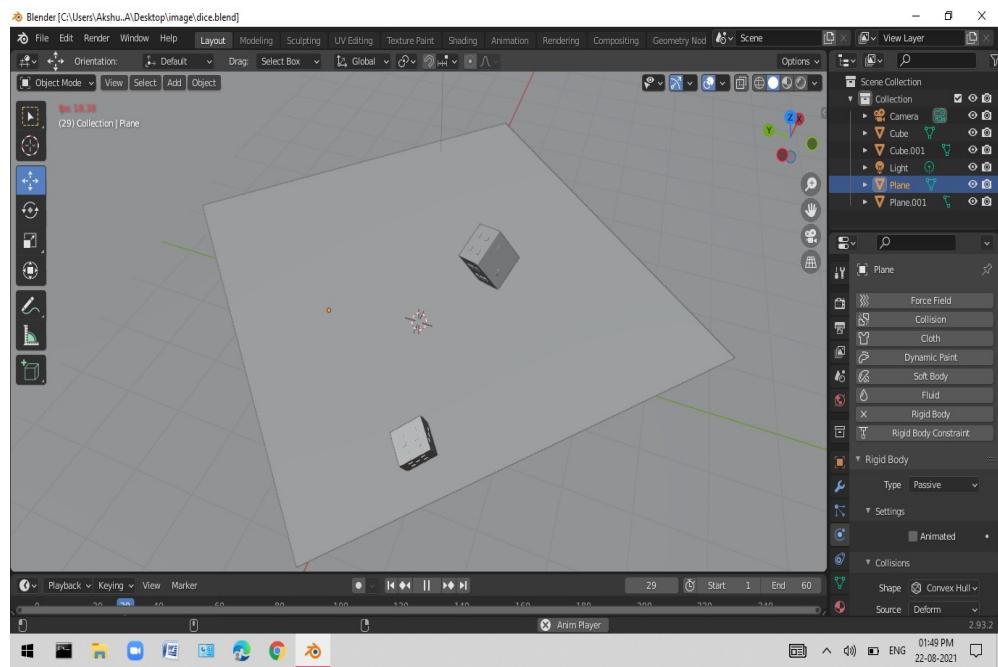
Step 10: Add other plane and move it behind the dice. Rotate the plane around x-axis by 45 degree and scale plane along Z-axis by 2 and X-Axis by 5.



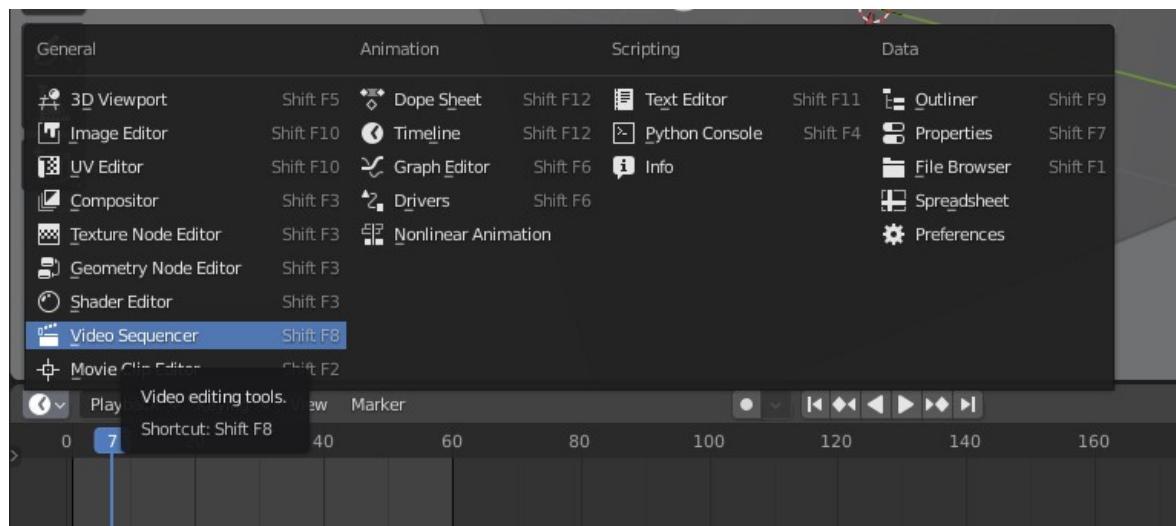
Step 11: Select plane. Under the “Physics Tab”, click “Rigid Body” and change the type to “Passive” and repeat this step same for other plane also. Select Die. Under the “Physics Tab”, click “Rigid Body” and change the type to “Active” and repeat this step same for other die also.



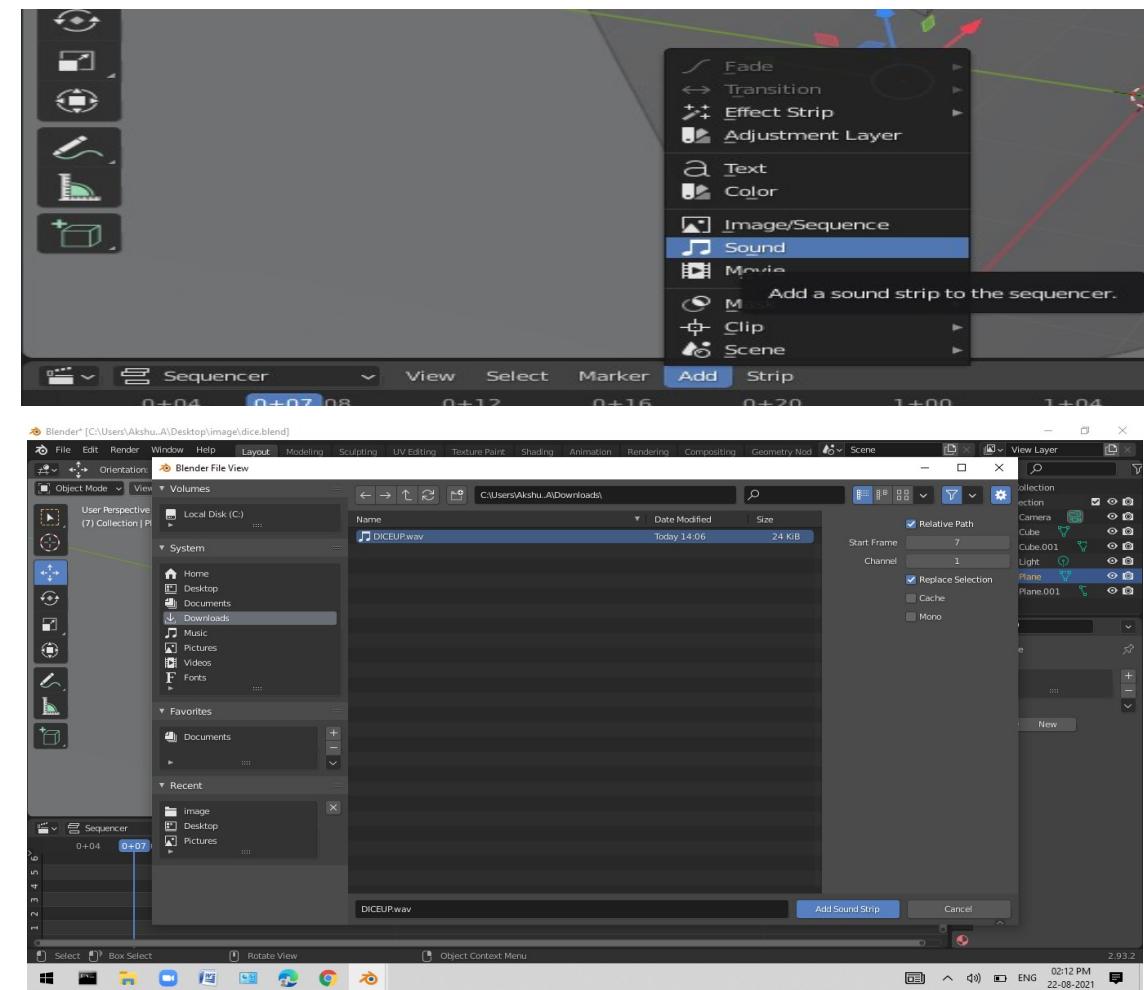
Step 12: move the dice above plane.Click on “play button” and dice will roll off the plane and onto the plane.



Step 13: you can add sound for dice fall by switchong timeline into video sequene.

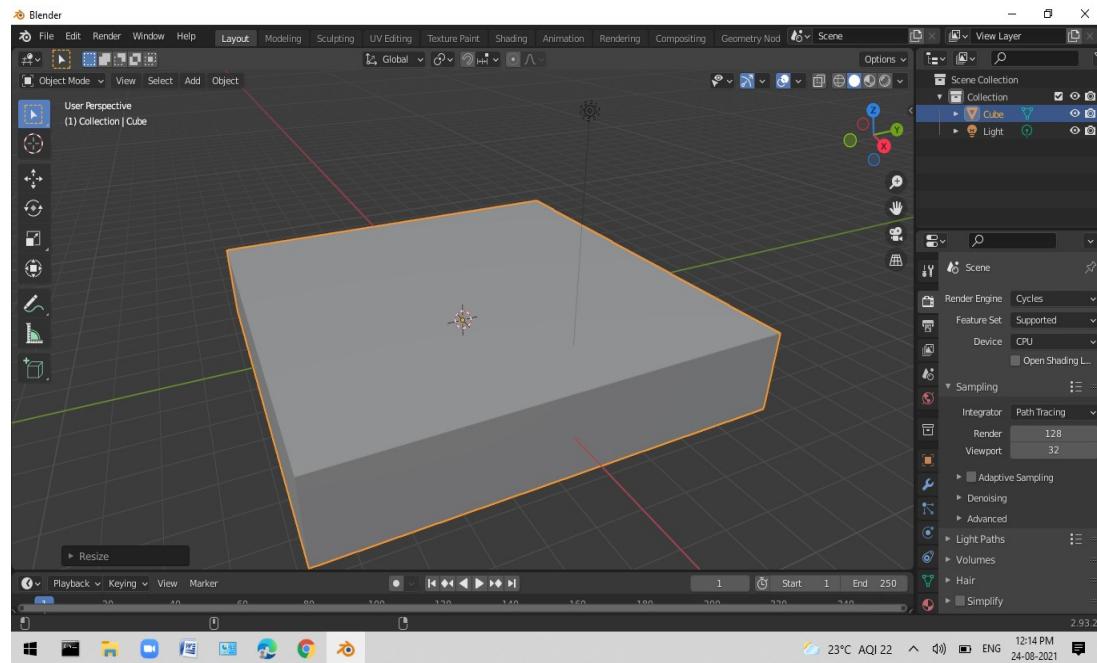


Step 14: click “Add” and choose “Sound”&locate sound file that you want into your animation.Click “Add sound strip” button.

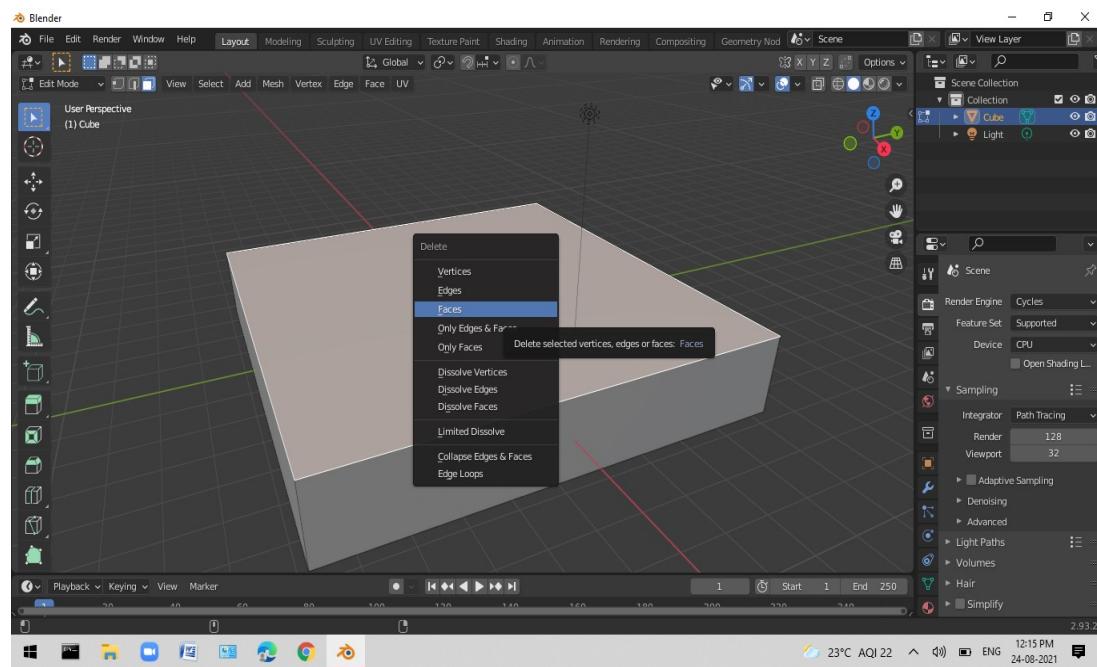


19. Show the animation of water flowing out from a pipe around a suitable environment.

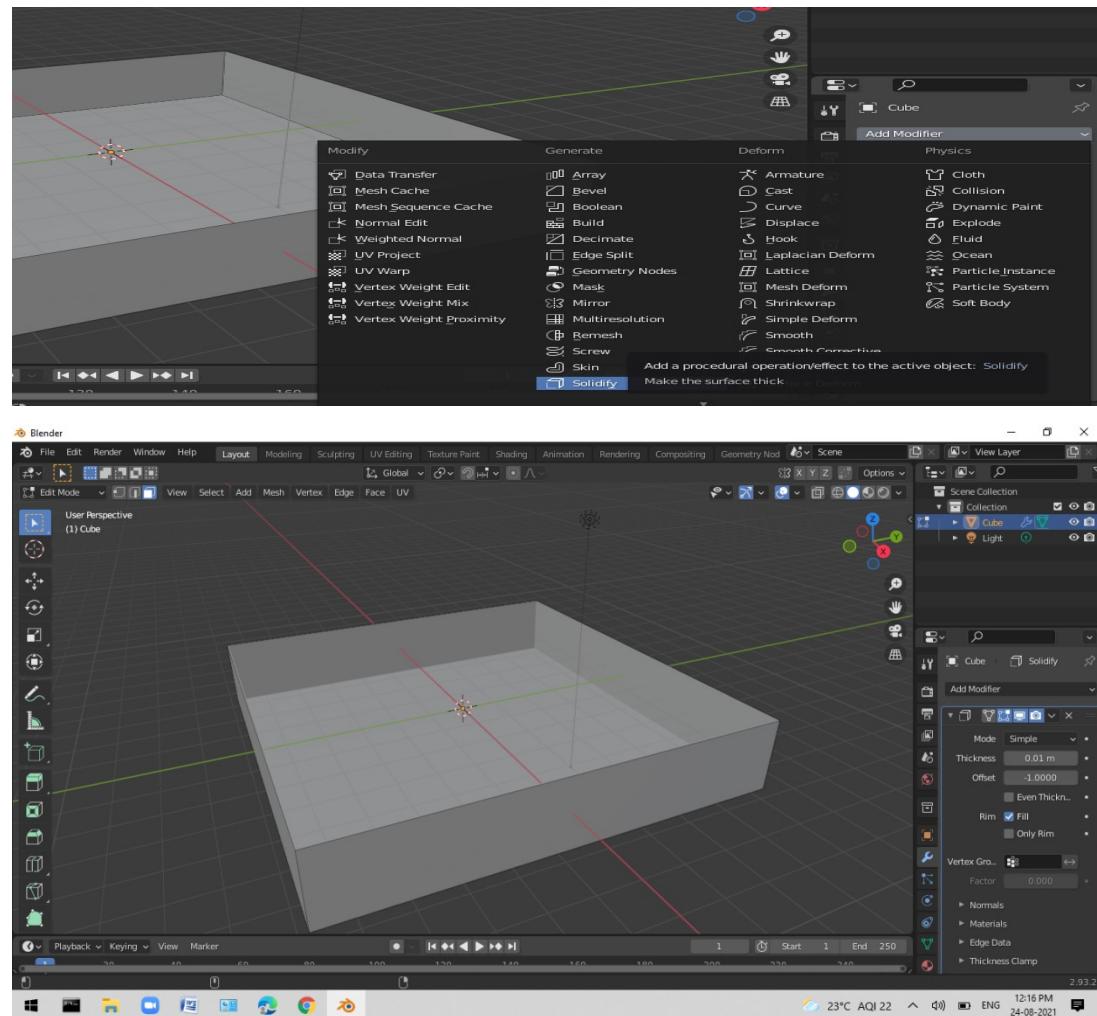
Step 1: Add cube ,scale it using “S” then Click “Shift+Z” to scale the cube on x and y axis..



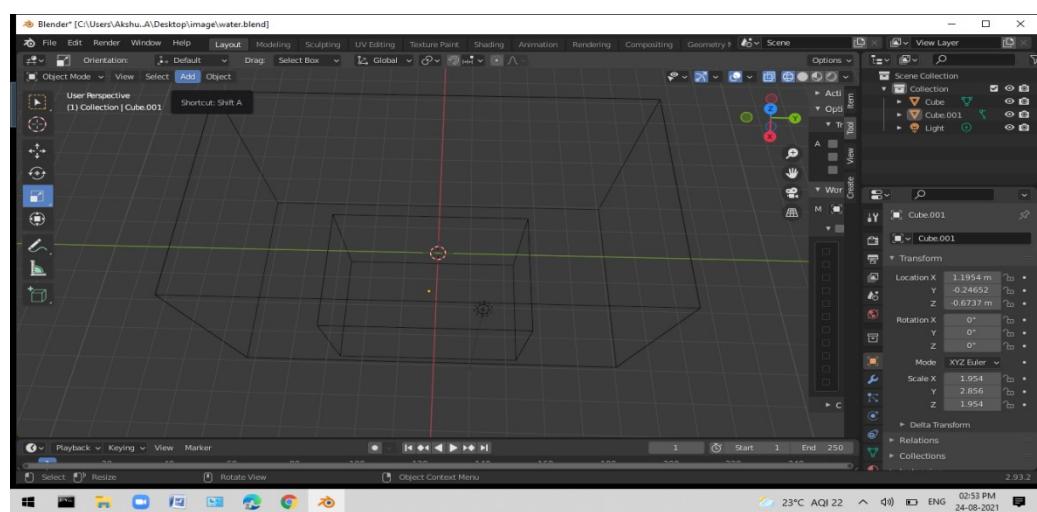
Step 2: Switch to edit mode,choose “Face mode” then select top face. Click “X” then choose “Face”.



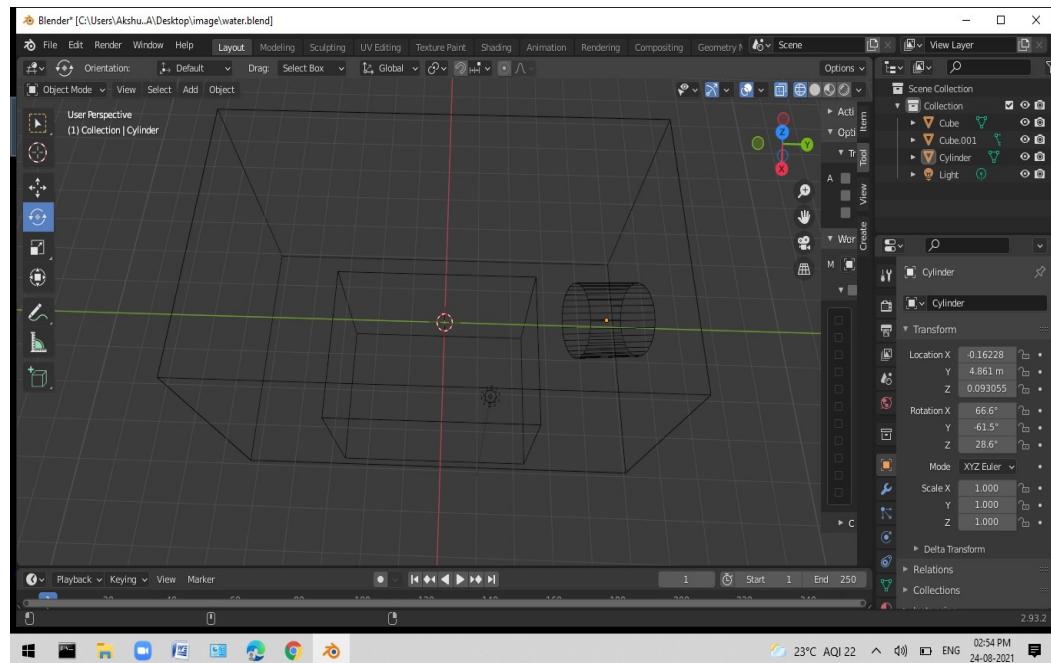
Step 3: Choose “Modifier” Tab, select “Solidify”. Adjust thickness.



Step 4: Add “Cube”, scale it using “S” then move it by “G”. Click “Shift+z”.



Step 5: Add “Cylinder” scale it by “s” and click “R” to x axis(90degree).switch to edit mode,click “F” to fill cylinder.

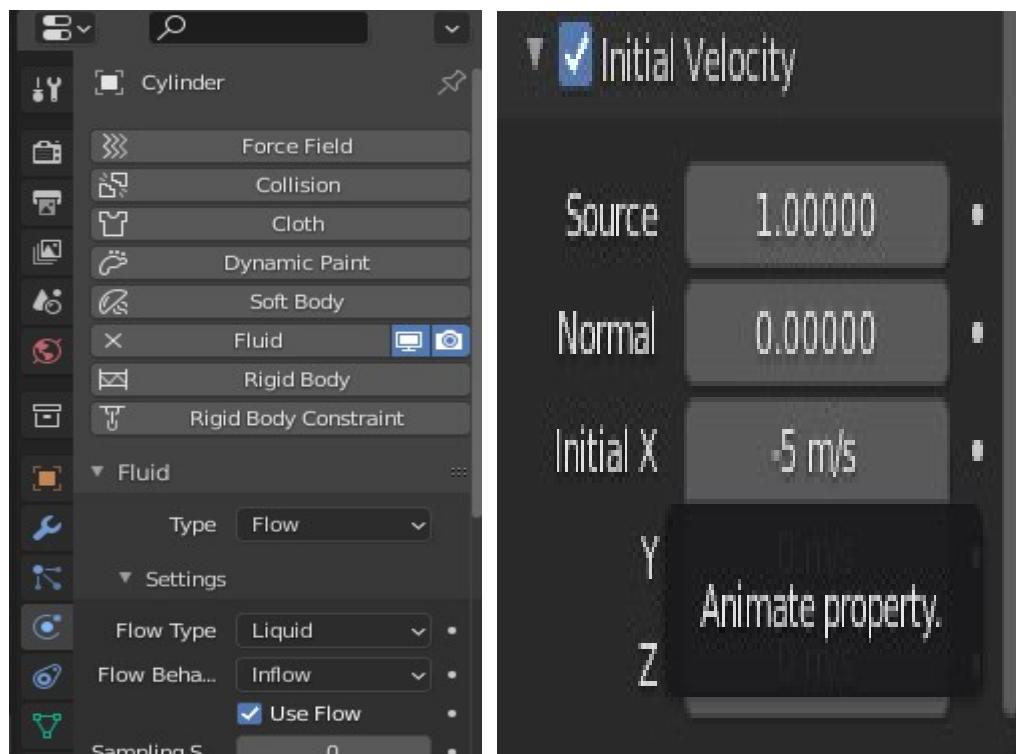


Step 6: Select “Cube1”,choose “Physics properties” and select “fluid”. Set fluid type as “Effector”,make checkbox on “Is Planar”.



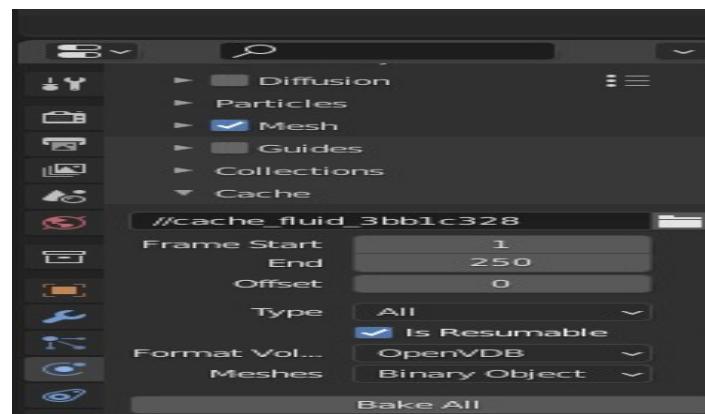
Step 7:Choose “Cylinder”, choose “Physics properties” and select “fluid”. Set fluid type as “Flow” and set flowtype as “Liquid”. Change Flow behavior as “Inflow”.

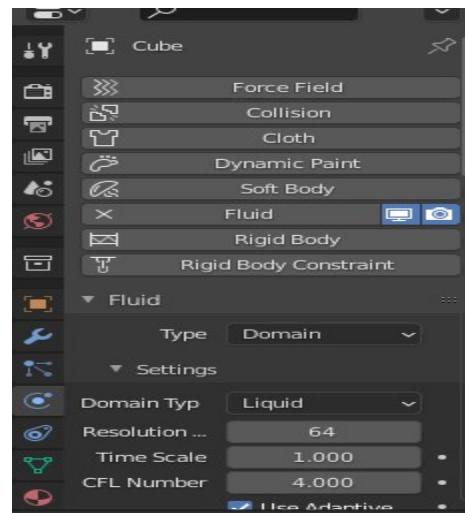
Go to flow setting ,make checkbox on “Initial velocity”,set initial X as -5ms. Select Cube 2 and click on Baking all.



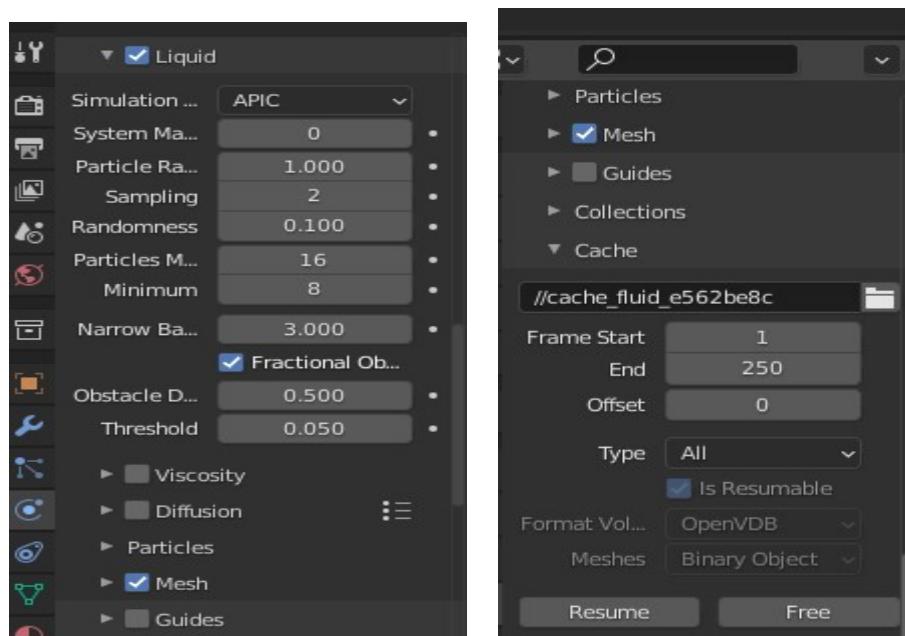
Step 8: choose “Cube2”, choose “Physics properties” and select “fluid”. Set fluid type as “Domain” and set Domain type as “Liquid”. scroll bottom you will find frame start and end option, set type as “All” and make checkbox “Is Resumable”.

Choose Cube2 and scroll down you will find “Bake All” option.click on it. After Baking ,select cube2 and click on free option and set “Resolution Division” as 64,click on Baking all one more time.





Step 9: Need to Bake Fluid into Mesh, scroll down and click on “free”. Scroll it up make checkbox on “Mesh”, increase resolution as “128”. Set simulation method as “APIC” & make checkbox on “Fractional obstacles”. Click on “Bake all”.



Step 11: Start Animation by clicking “Spacebar”.

Step 12: Obtain Animation images.

