IS 2107 - Graphics and Visualization - Practical

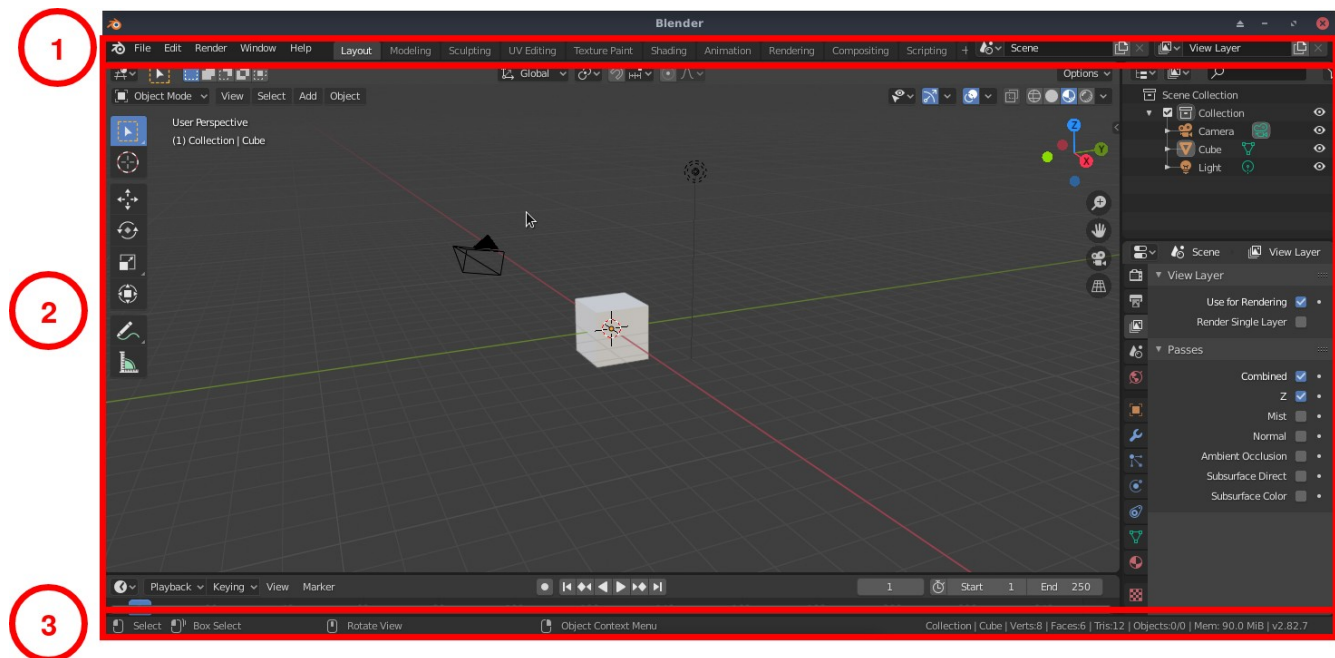## Getting Started With Blender

1. Download and install blender software from the following link

   1. [Download](#)
   2. [Installing Blender — Blender Manual](#)

2. Getting started with blender.

Blender User Interface (Version: above 2.80)

After starting Blender and closing the Splash Screen the Blender window should look something similar to the image below.

Blender's interface is separated into three main parts:

   1. Topbar at the very top.
   2. Areas in the middle.
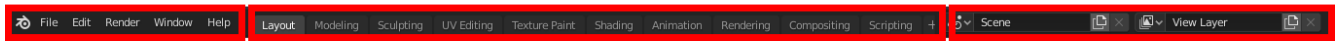   3. Status Bar at the bottom.

1. TopBar

Topbar mainly consists of
   - Menus
   - Workspaces
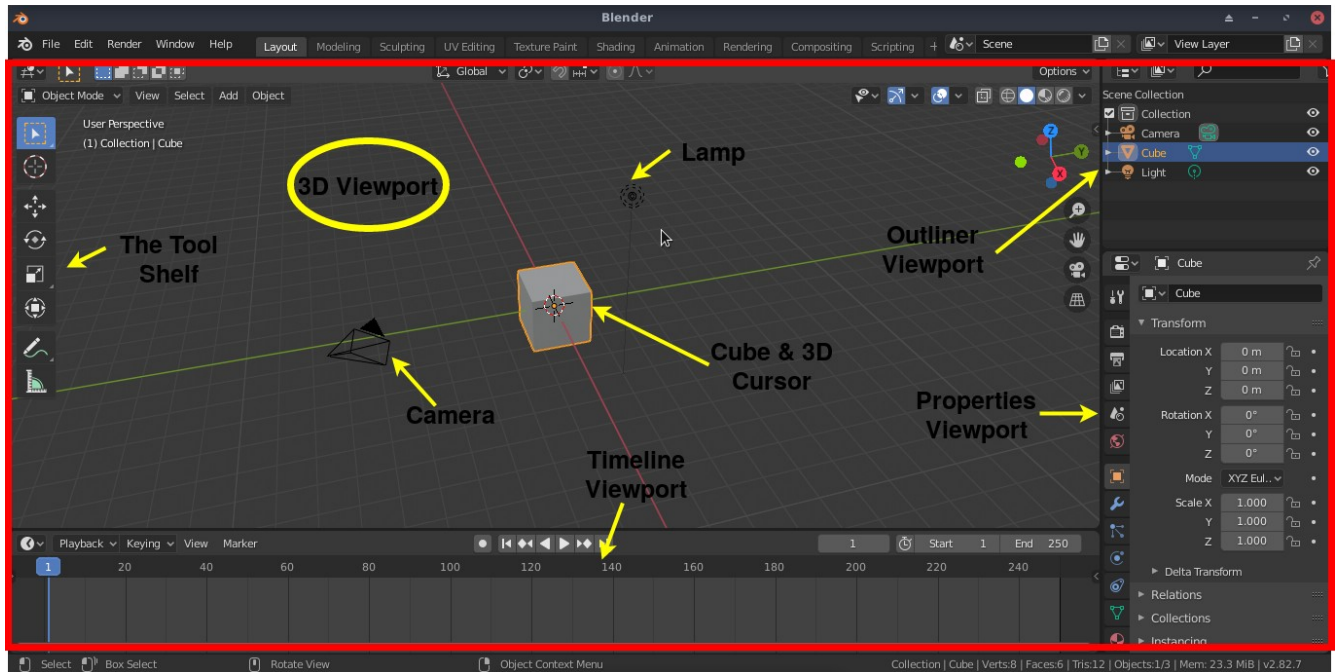   - Scenes & Layers

2. Areas in the Middle

The Blender window is divided up into a number of rectangles called Areas. Areas reserve screen space for Editors, such as the 3D Viewport, or the Outliner. In general an Editor provides a way to view and modify your work through a specific part of Blender.

3. Status Bar

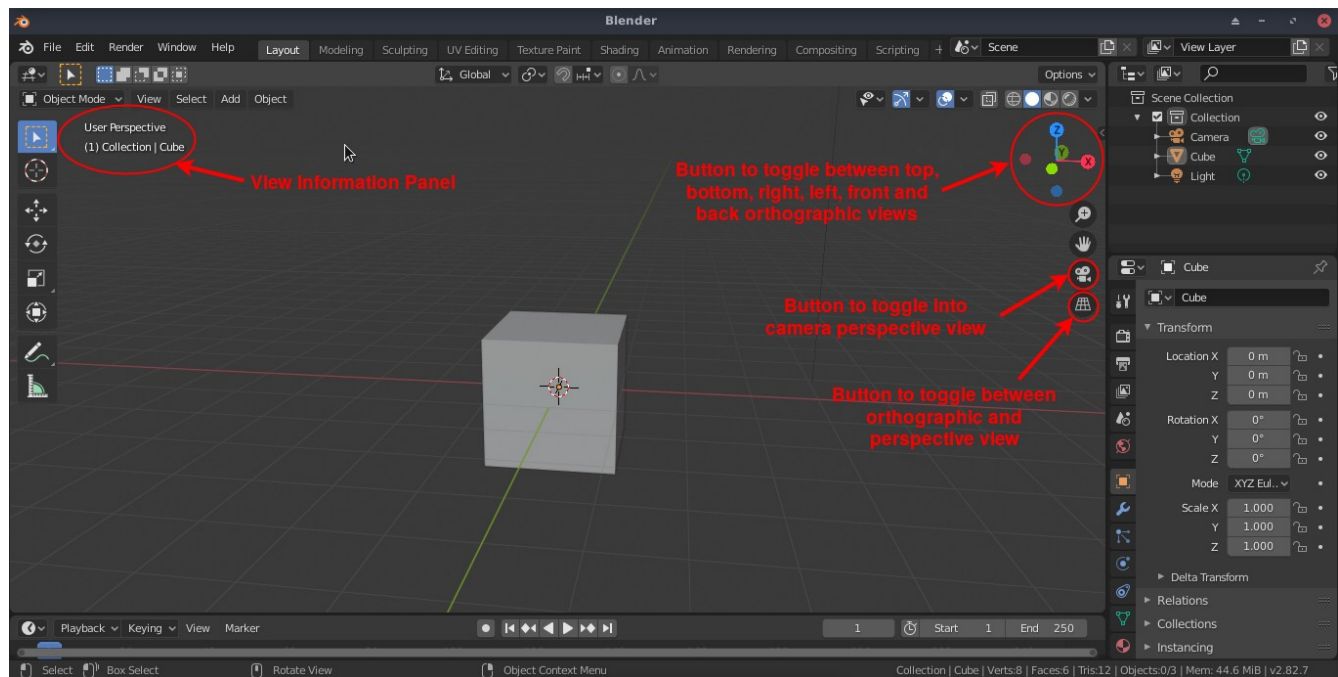The Status Bar is located at the very bottom of the Blender window and is used to present information.

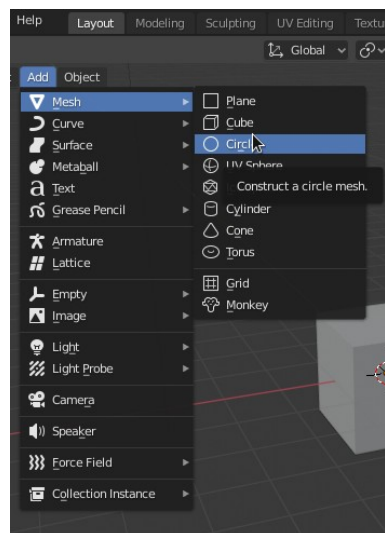Keymap Information   Status Messages   Resource Information

# Working with Viewports

Working with Basic Meshes

(a) Creating an object (object creates at the 3D cursor)

These buttons are the main modifiers to manipulate meshes. These buttons enable move, rotate, scale and transform (combination of all).
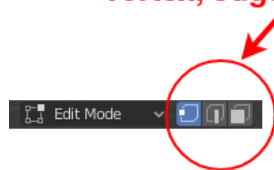
Edit Mode- Mesh Editing

You can switch to edit mode either by switching into edit mode(Tab Key) or by changing workspace into modeling.
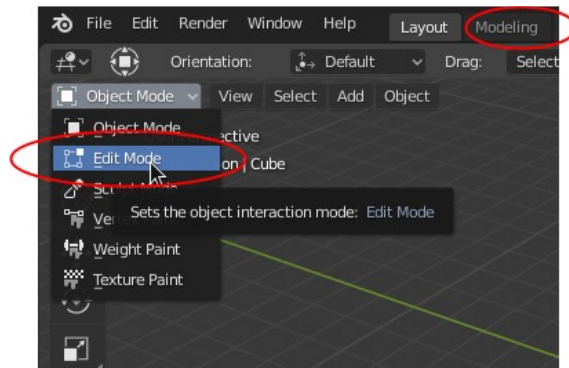
In edit mode you can select vertexes, edges or faces and manipulate them using basic transformation tools.
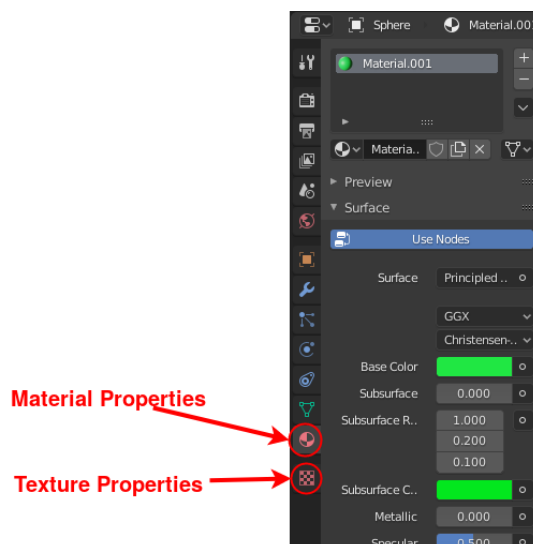
There are several tools which are used in edit mode to manipulate meshes. Explore and write the functionality of the each tool given below.
- Extrude
- Loop cut
- Bevel tool
- Knife tool

Add color/texture

Colors and textures can be added to meshes using material and texture properties in properties viewport.

3. Open blender project

    1. Download the project file from the following link

        1. [- Art Gallery — Blender Cloud](#)

    2. Open the blender project

        1. File -> Open -> select the downloaded file -> press Open

        2. Press Ctrl + O -> select the downloaded file -> press Open

    3. Change the view mode to wireframe

        1. Press Z -> press 4

        2. Take a screenshot

    4. Change the view mode to solid mode

        1. Press Z -> press 6

        2. Take a screenshot

    5. Change the view mode to render preview mode

        1. Press Z -> press 8

        2. Take a screenshot

    6. Take a screenshot of the frame number 242

    7. Take screenshots of three different viewpoints

    8. Change the hair color of the girl/girls to black color (RGB=0,0,0)

        1. Take a screenshot (at default camera view)

           Hints - search "hair" keyword on the files

            change the color property of the correct material

            Select "material properties" to change the color property of a material

Submit a pdf containing all the answers and screenshots with the correct question numbers.