**Assignment 2**

1. Create your first 3D model using basic shapes (e.g., cube, sphere, cylinder, capsule, and plane) in blender by using the following tools and techniques learned in first unit of your course.

    I.   Write a short note on **Duplicate and Merging techniques** to create multiple objects from one object.

    II.   Discuss about **normal** and its importance. Apply them in your model.

    III.   Write a brief note on importance of **Extrusion and Inset tools** also apply Extrude/Inset tools during the planning of your model.

    IV.   Write the blender shortcuts about **Edge Loops, Loop Cut and slide** and apply them in your model.

    V.   Briefly discuss the importance of constrain movements using **snapping tool**. Also apply them in your model how to snap objects into place.

    VI.   Write a short note on **Array modifier** and apply them in your 3D model also discuss the methods of how to separate your geometry.

    VII.   Apply **subdivision** in your model and discuss about the side effect of subdivision.

2. Give the coordinates of the following points. Assume the standard 2D conventions. The darker grid lines represent one unit.
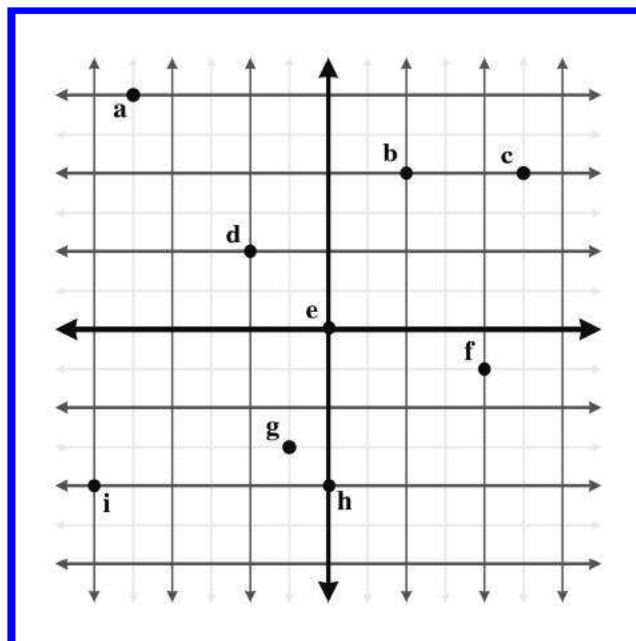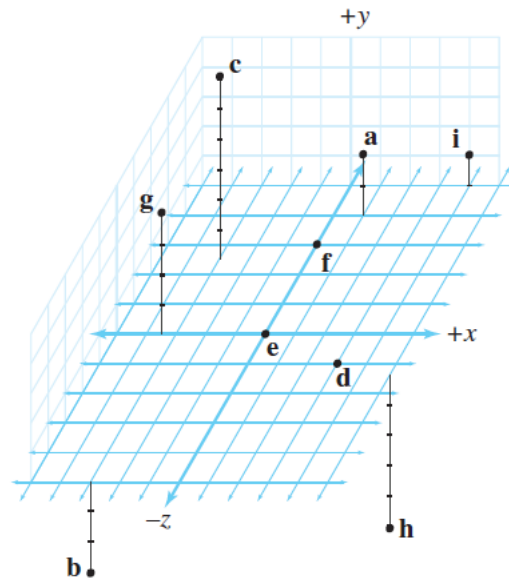
3. Give the coordinates of the following points:

4. List the 48 different possible ways that the 3D axes may be assigned to the directions "north," "east," and "up." Identify which of these combinations are left-handed, and which are right-handed.

5. In the popular modelling program such as 3DS Max and Blender, the default orientation of the axes is for +x to point right/east, +y to point forward/north, and +z to point up.
   (a) Is this a left- or right-handed coordinate space?

   (b) How would we convert 3D coordinates from the coordinate system used by 3DS Max into points we could use with our coordinate conventions discussed in?

   (c) What about converting from our conventions to the 3DS Max conventions?

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Submission Deadline: Demo due: 14-20 March**, 2022** | Cumulative Report, .blend and Video deadline: **21/03/2022** @ 23:59 PM.