Course Name: Computer Engineering workshop (CEN 1006)		
LAB # 7: Introduction to Computer Aided design (Open ended lab)		
Department	**Registration Number/Name**	**Semester/Section**
BS CEN	F24604018/Muhammad Hamzah Iqbal	1
Date	**Instructor's Name**	**Instructor's Signature**
12/11/2024	Maj Sheryar /Iqra Ashraf	

Objective:

- Implement Basic 2-D and 3-D modeling using drawing principles on AutoCAD.
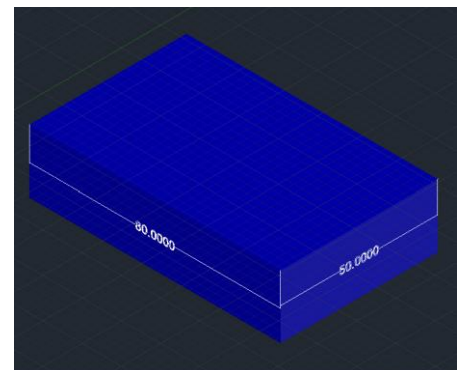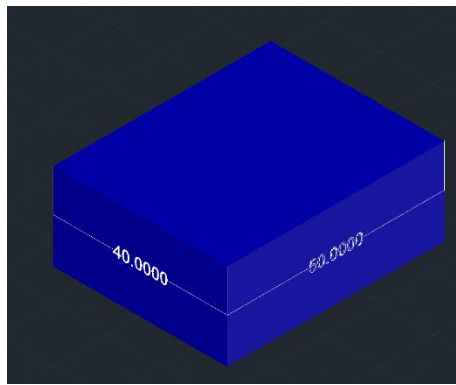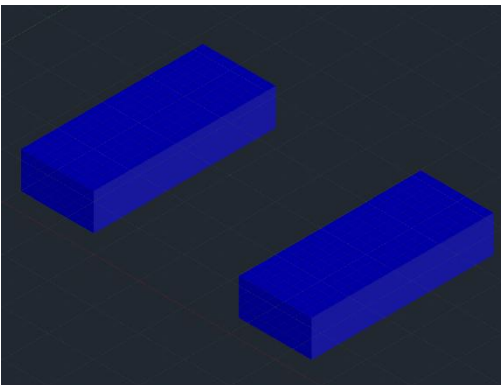
Lab Tasks:

- First draw A4 paper sheet layout in AutoCAD.
- Draw these models in AutoCAD.
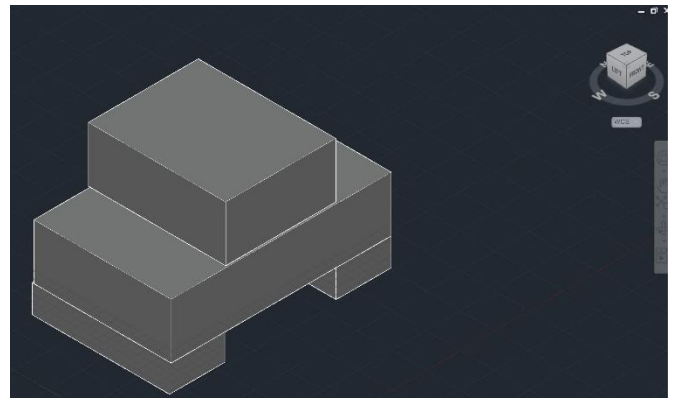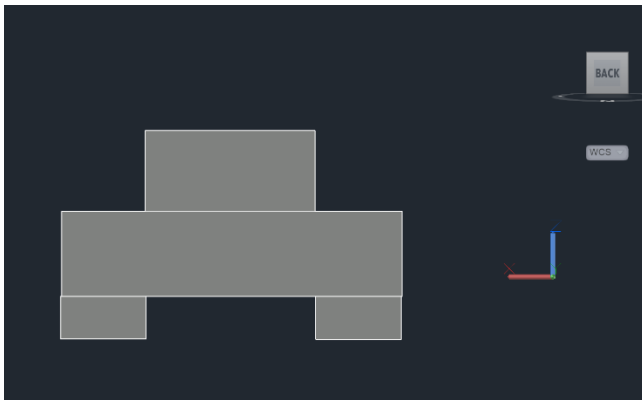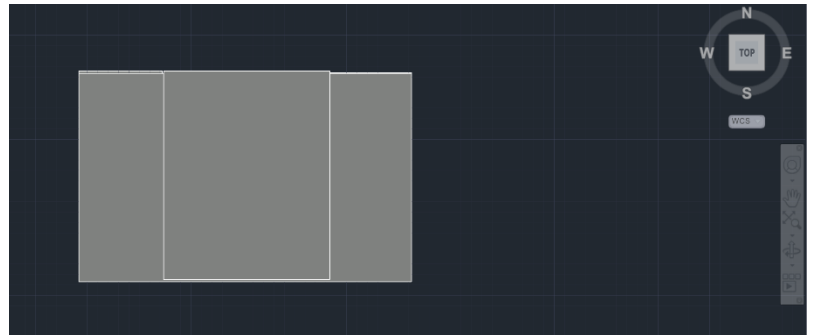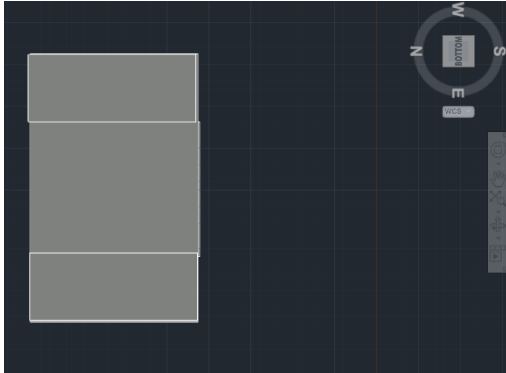- Draw orthographic projections of these models.
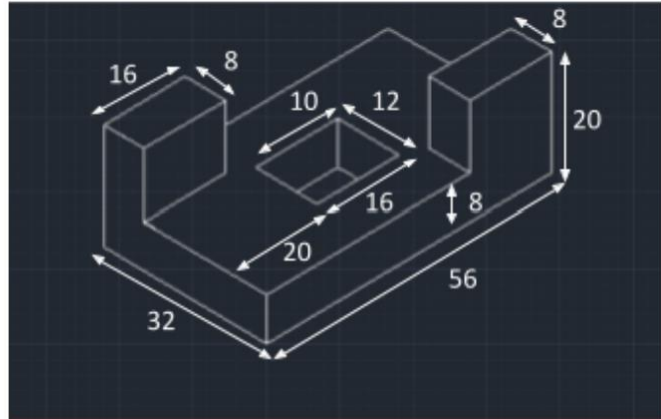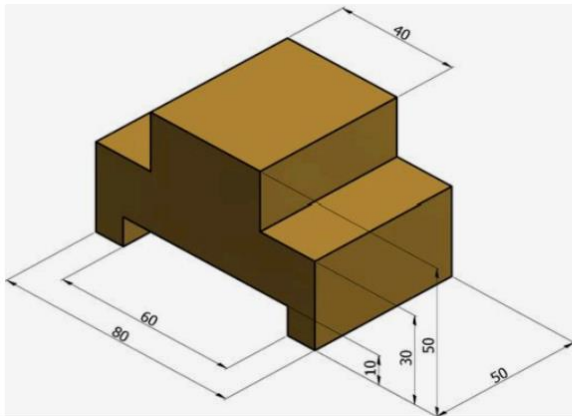
Output:

Shape 1:

- First, we change the workspace to 3D modelling and draw all the shapes using the box feature in AutoCAD and draw to shape with respect to their sizes.

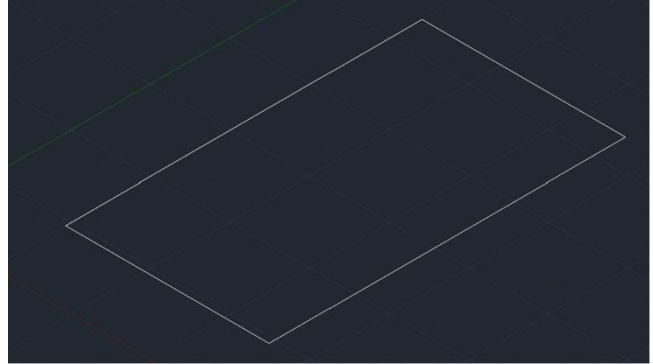- **We align the shape using each view Top, Bottom, Back and Isometric:**
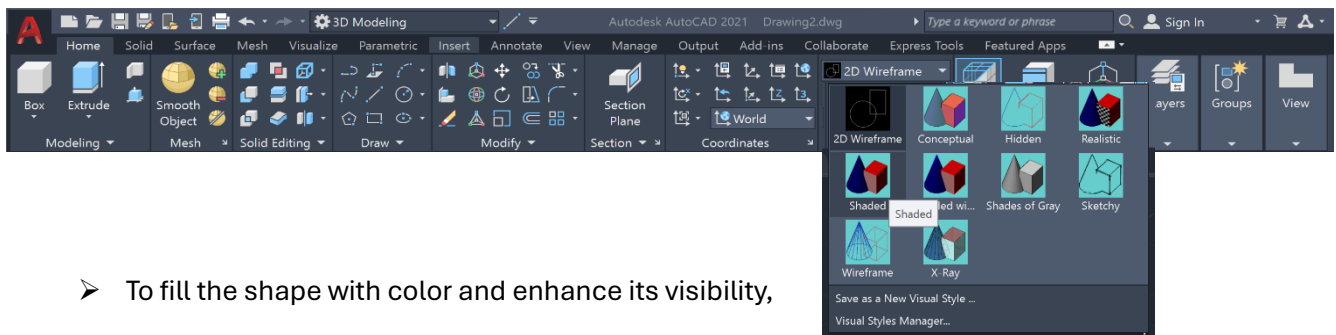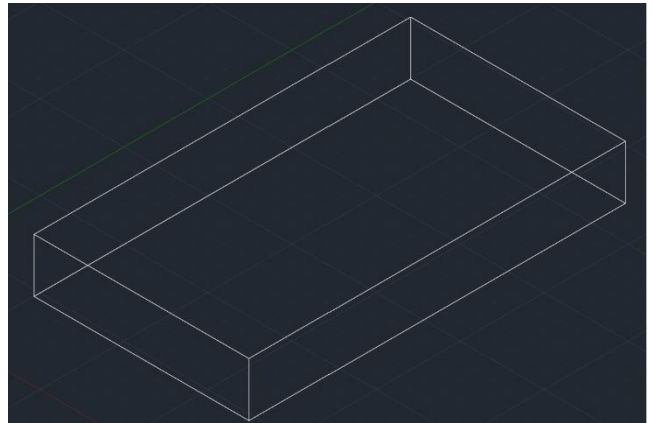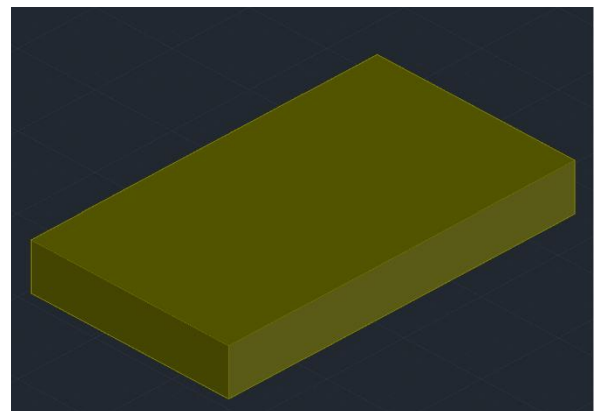

Final Shape:

Shape 2:

➢ First, we Shift to Isometric view in 3d Modelling and draw a rectangle with width 32 and length 56.

➢ Then we Extrude this shape by going into the solids tab in AutoCAD.

➢ To fill the shape with color and enhance its visibility, switch from the 2D Wireframe option to the Shaded option.

➢ Next, we draw the remaining shapes and position them accurately to complete the given design.
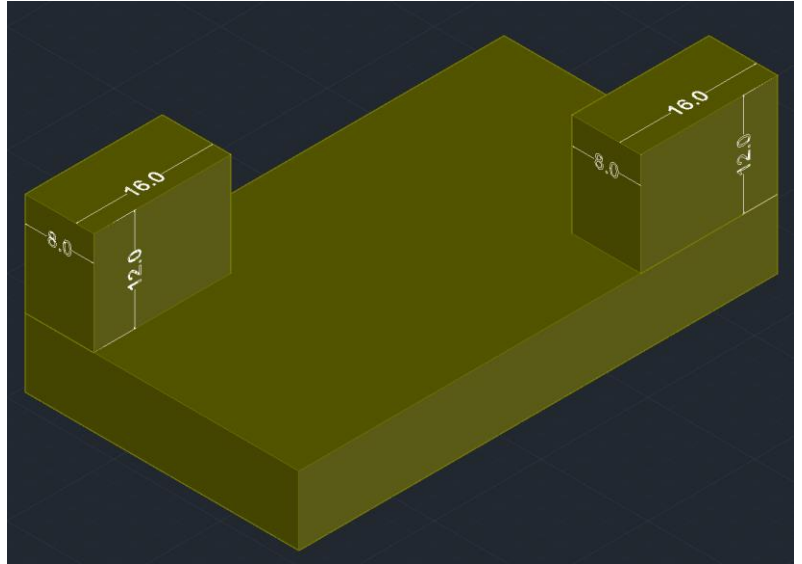
➢ Then we shifted to the Top view of the A new square is drawn exactly 20.0 meters away from the right side. A rectangle was drawn with length 20 meters so that the square could be aligned. We place the square at the exact **Centre** of the shape.
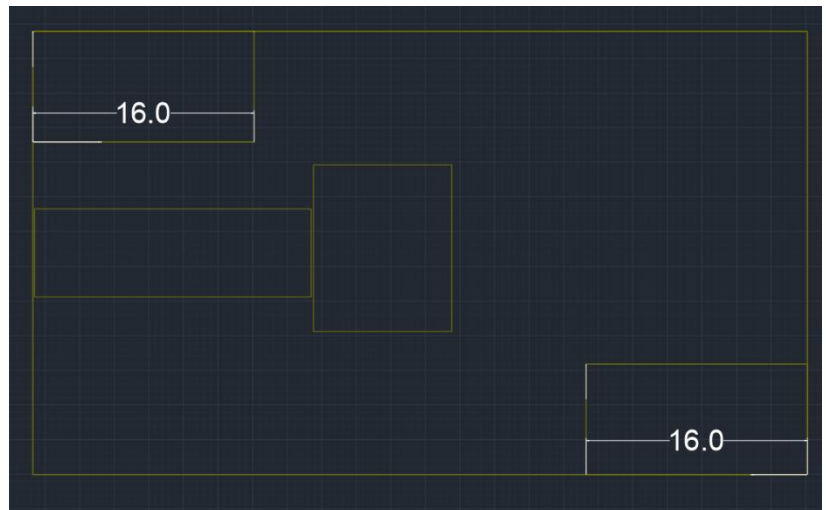

➢ The Square was drawn and then extruded so that it can be used to subtract. Using **the Subtract** in solids tab we subtract the big box from the smaller one.
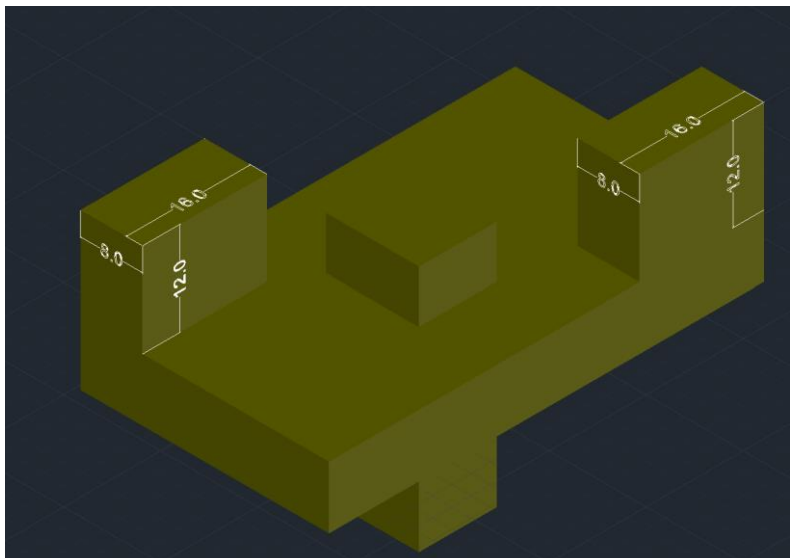
> ➤ After subtracting, the shape transforms into a hollow structure or cavity, resembling the intended design. Finally, we select all 3D shapes to combine them into one shape using **Union**.
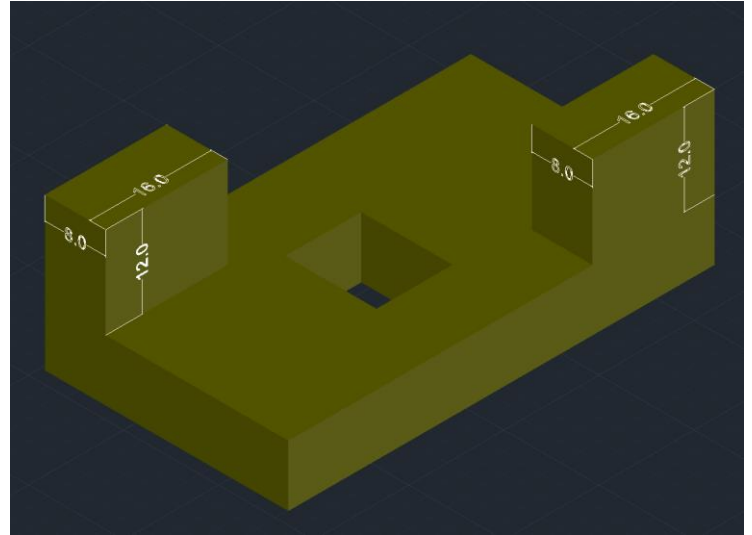
Final Shape after adding all Dimension:
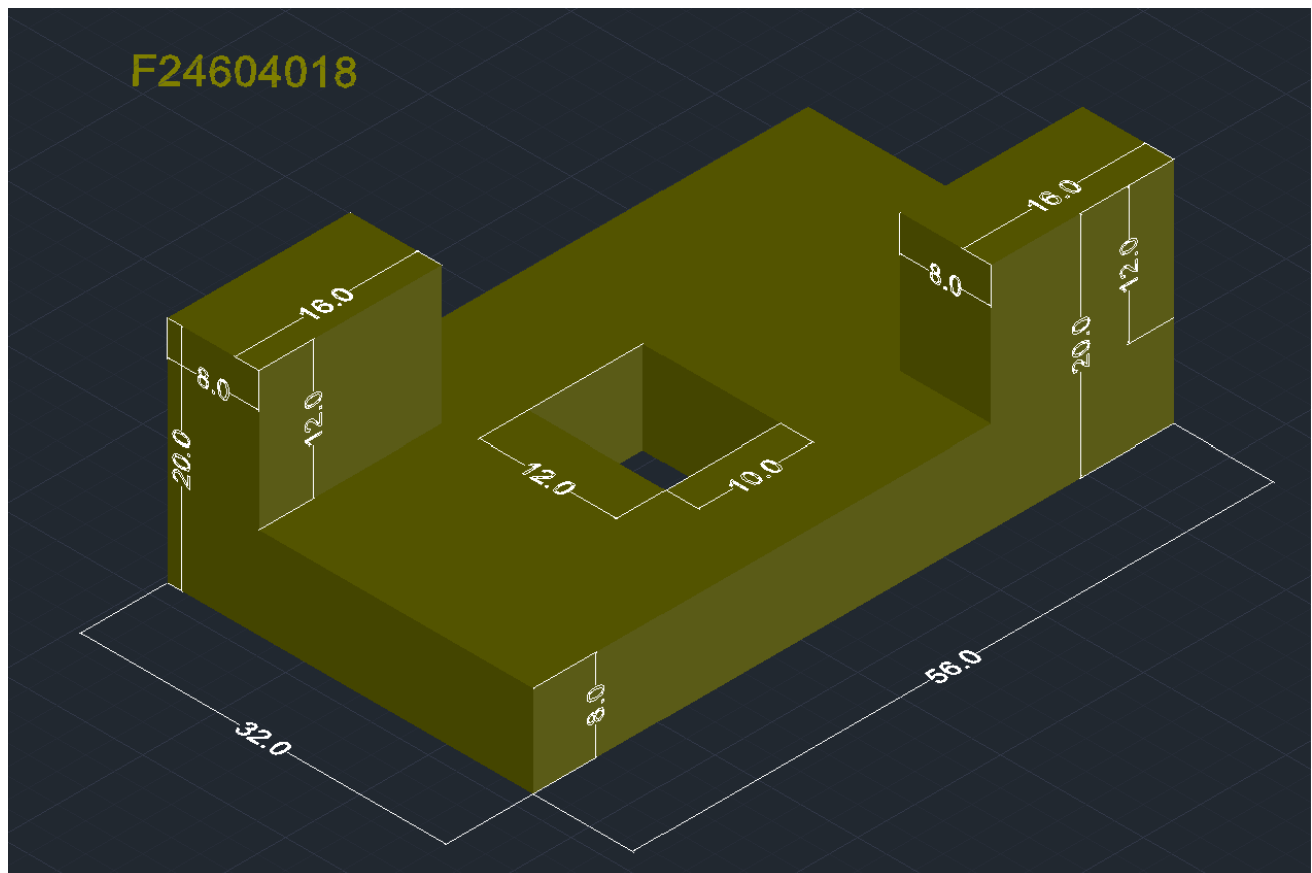
Conclusion: Thess drawings has helped me understand the practical application of AutoCAD commands like extrude, subtract, and shading. It improved my skills in creating precise 3D models and visualizing designs effectively.