

#### NAMAL UNIVERSITY, MIANWALI

Department of Electrical Engineering

EE-254—Engineering Drawing

Lab - 8

## Multi View Drawings 1<sup>st</sup> and 3<sup>rd</sup> Angle Projection

| Student Name         | Institute ID     | Marks |
|----------------------|------------------|-------|
| Fahim Ur Rehman Shah | NIM-BSEE-2021-24 |       |

Instructor: Engr. Rizwan Shabbir

#### **Document History**

| Rev. | Date    | Comment       | Author |  |
|------|---------|---------------|--------|--|
| 1.0  | 02-2022 | Initial Draft | MB     |  |
| 1.1  | 05-2023 | Revision      | RS     |  |

#### **Course Learning Outcomes**

CLO1: Ability to read basic engineering drawings problems.

CLO3: Reproduce 2-D and 3-D sketches using AutoCAD by applying engineering drawing principles.

#### **Equipment**

- Software
  - o AutoCAD 2016 Educational Version

#### **Instructions**

The following instructions are to be followed while performing in the labs.

- The manual must be thoroughly read before starting the lab.
- The theoretical concepts related to the lab and experiments must be revised.
- All attempts shall be made to complete the lab during the lab session.
- Any attempt to plagiarize from any source will be reported to the disciplinary committee for further action so keep the work original.
- Carefully use the laboratory equipment.

#### **Objectives**

• To get hands on experience of AutoCAD software.

#### **Background Information**

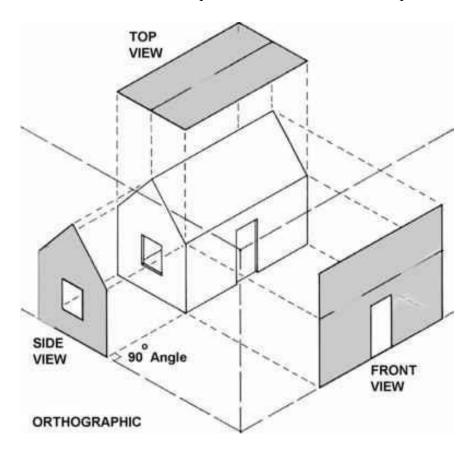
To manufacture a component, you must create its engineering drawing. The engineering drawing consists of various views of the object, showing its true shape and size so they can be clearly dimensioned. This can be achieved by creating the orthographic views of the object. The auxiliary views clearly describe the features of a component, which are located on an inclined plane or surface.

#### **Orthographic Views**

Orthographic Views are standard representations of an object on a sheet. These views are created by projecting object onto three different planes (top plane, front plane, and side plane). You can project an object by using two different methods:

#### **First Angle Projection**

**First angle** projection is one of the methods used for orthographic projection drawings and is approved internationally except the United States. In this projection method, the object is placed in the first quadrant and is positioned in front of the vertical plane and above the horizontal plane.



#### **Third Angle Projection**

**3rd Angle** project is where the 3D object is seen to be in the 3rd quadrant. It is positioned below and behind the viewing planes, the planes are transparent, and each view is pulled onto the plane closest to it. The front plane of projection is seen to be between the observer and the object.

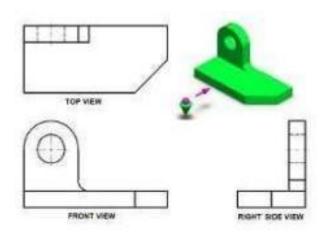
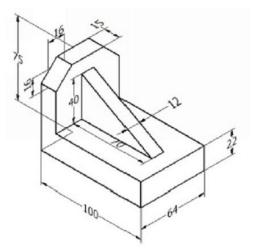


Figure 6: Third Angle Orthographic Views

#### **Example:**

In this example, you will create the orthographic views of the part shown below. The views will be created by using the **Third Angle Projection method**.



- Open a new drawing using the acadISO –Named Plot Styles.dwt template.
- Click the Layer Properties button on the Layer panel; the Layer Properties Manager appears.
- Click the New Layer button on the Layer Properties Manager to create new layers.
- Create two new layers with the following properties.

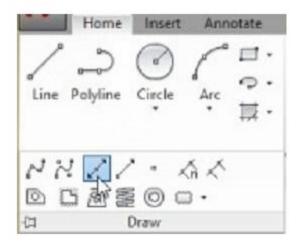
Table 1: Layers with setting information

| Layer Name         | Line Weight | Line Type  |
|--------------------|-------------|------------|
| Construction layer | 0.00mm      | Continuous |
| Object Layer       | ₄ 0.50mm    | Continuous |

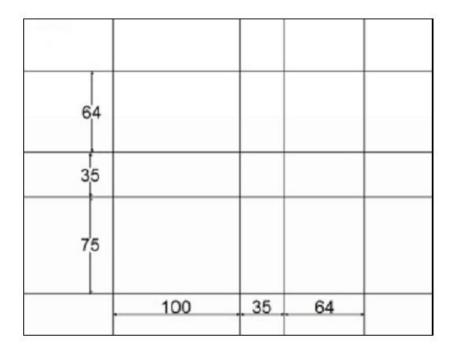
- Right-click on the Construction layer and select Set current.
- Close the Layer Properties Manager.
- Activate the Ortho Mode icon on the status bar.
- Click Zoom > Zoom All on the Navigation Bar

Next, you need to draw construction lines. They are used as references to create actual drawings. You will create these construction lines on the Construction layer so that you can hide them when required.

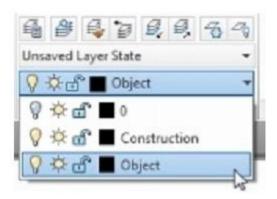
• Click Home > Draw > Construction line on the ribbon or enter XLINE in the command line.



- Click anywhere in the lower left corner of the graphics window.
- Move the pointer upward and click to create a vertical construction line.
- Move the pointer toward right and click to create a horizontal construction line.
- Press ENTER to exit the tool.
- Click the Offset button on the Modify panel.
- Type 100 as the offset distance and press ENTER.
- Select the vertical construction line.
- Move the pointer toward right and click to create an offset line.
- Right-click and select Enter to exit the Offset tool.
- Press the SPACEBAR on the keyboard to start the Offset tool again.
- Type 75 as the offset distance and press ENTER.
- Select the horizontal construction line.
- Move the pointer above and click to create the offset line.
- Press ENTER to exit the Offset tool.
- Likewise, create other offset lines as shown below:

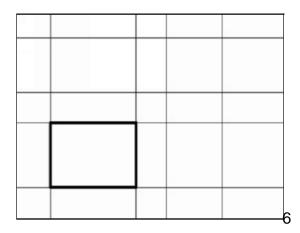


• Activate the Object layer.

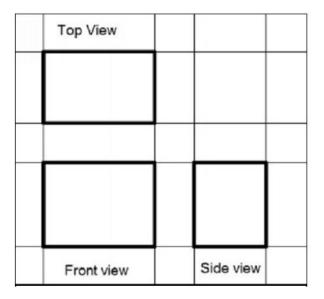


Now, you must create object lines.

- Click the Line button on the Draw panel.
- Create an outline of the front view by selecting the intersection points between the construction lines.

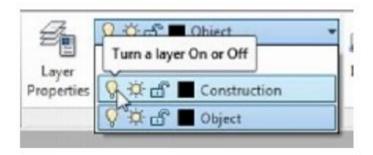


- Right-click and select Enter to exit the Line tool.
- Activate the Show/Hide Line weight button on the status bar.
- Likewise, create the outlines of the top and side views.

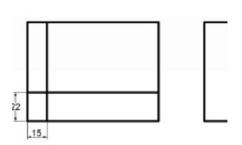


Next, you must turn off the Construction layer.

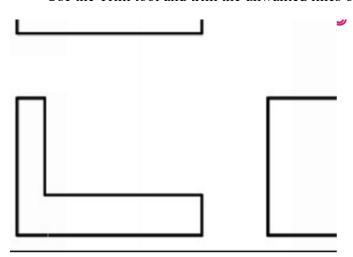
- Click on the Layer drop-down in the Layer panel.
- Click the light bulb of the Construction layer; the layer will be turned off.



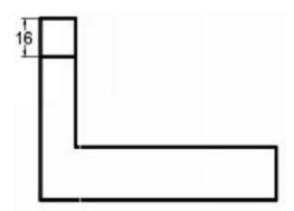
• Use the Offset tool and create two parallel lines on the front view, as shown below.



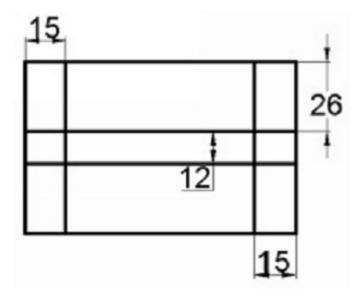
• Use the Trim tool and trim the unwanted lines of the front view as shown below.



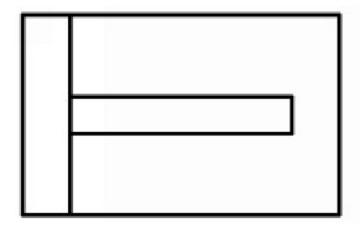
• Use the Offset tool to create the parallel line as shown below.



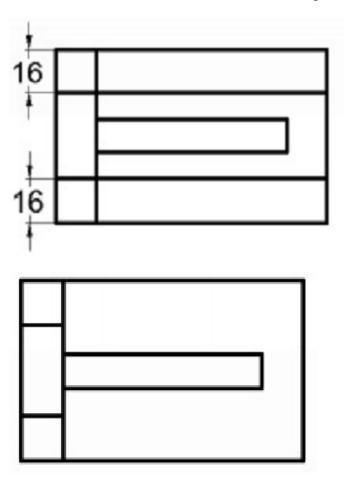
• Use the Offset tool and create offset lines in the Top view as shown below.



• Use the Trim tool and trim the unwanted objects.



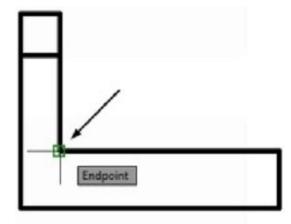
• Create other offset lines and trim the unwanted portions as shown below.



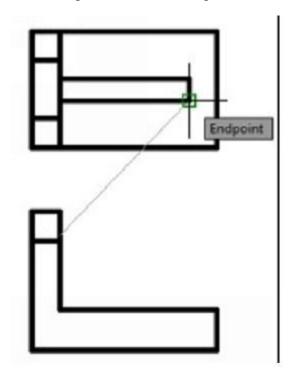
- Click the Line button on the Draw panel.
- Press and hold the SHIFT key and right-click. Select the from option.



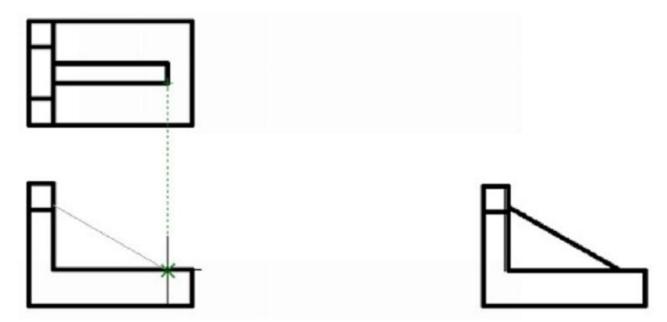
• Select the endpoint of the line in the front view as shown below.



- Move the pointer on the vertical line and enter 40 in the command line; the first point of the line is specified at a point 40 mm away from the endpoint. Also, a rubber band line will be attached to the pointer.
- Move the pointer onto the endpoint on the top view as shown below.



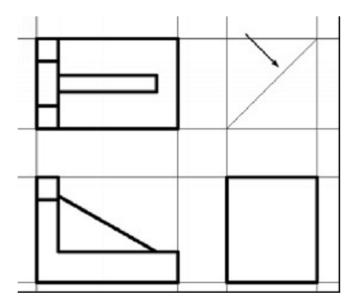
- Move the pointer vertically downward; you will notice track lines.
- Move the pointer near the horizontal line of the front view and click at the intersection point as shown below. Press ENTER to exit the tool.



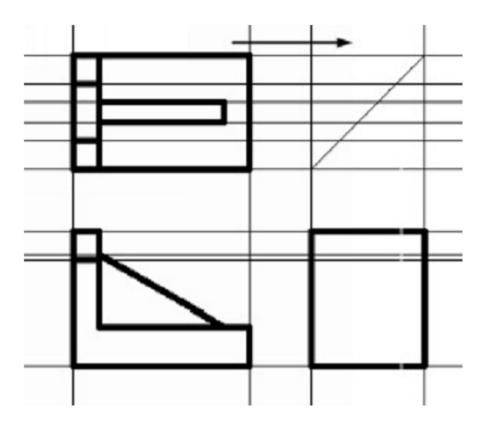
• Move the pointer near the horizontal line of the front view and click at the intersection point as shown below. Press ENTER to exit the tool.

Next, you must create the right-side view. To do this, you must draw a 45- degree miter line and project the measurements of the top view onto the side view.

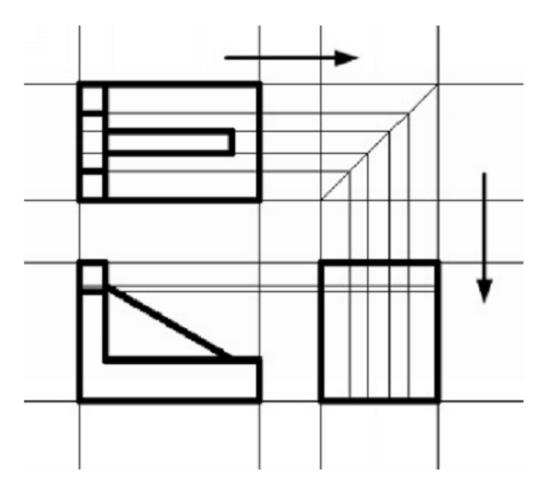
- Click on the Layer drop-down in the Layer panel.
- Click the light-bulb icon of the Construction layer; the Construction layer is turned on.
- Select the Construction layer from the Layer drop-down to set it as the current layer.
- Draw an inclined line by connecting the intersection points of the construction lines as shown below:



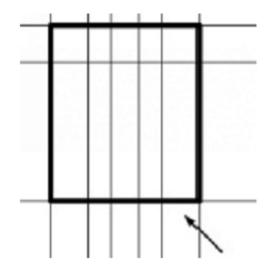
- Click the Construction Line button on the Draw panel.
- Select the Hor option from the command line and create the projection lines as shown below.



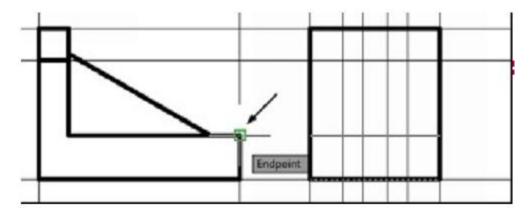
- Right-click to exit the Construction Line tool.
- Press ENTER and select the Ver option from the command line.
- Create the vertical projection lines as shown below.
- Use the Trim tool to trim the extend portions of the construction lines.



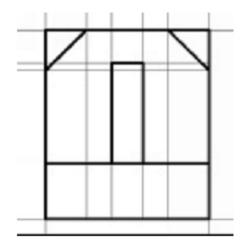
- Set the Object layer as current.
- Click the Offset button on the Modify panel.
- Select the Through option from the command line.
- Select the lower horizontal line of the side view.



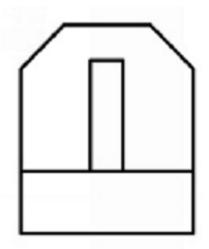
• Select the end point on the front view as shown below.



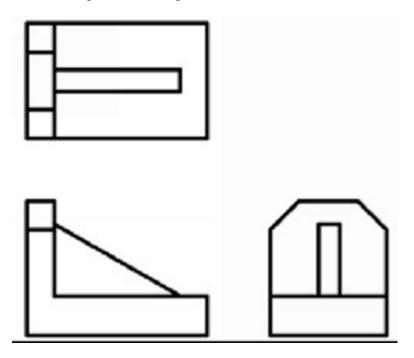
- Click Exit in the command line.
- Use the Line tool and create the objects in the side view as shown below.



- Turn off the Construction layer by clicking on the lightbulb of the Construction layer.
- Trim the unwanted portions on the right-side view.



The drawing after creating all the views is shown below.



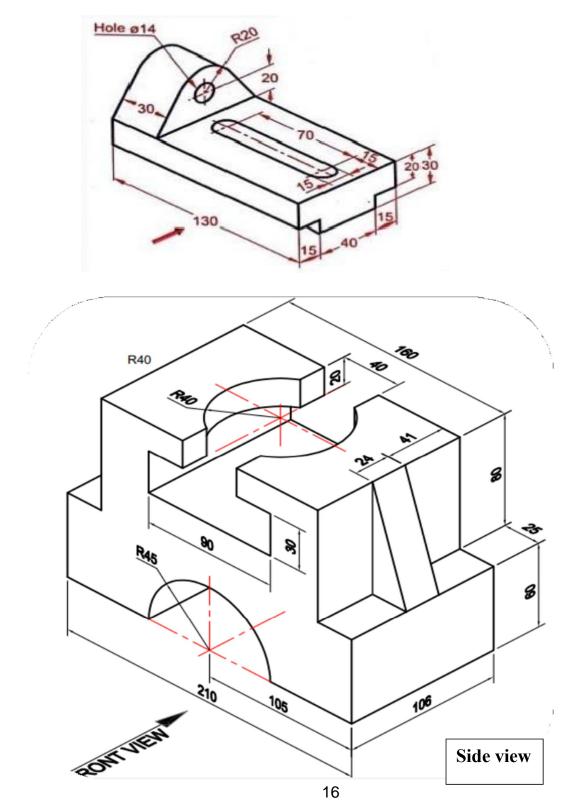
• Save the file as ortho\_views.dwg. Close the file.

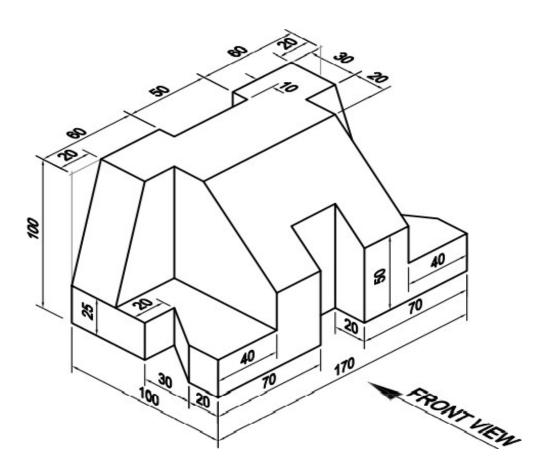
#### **Task**

Draw the following views in 1st or 3rd angle orthographic projection:

- 1.1 The front view (as shown by the arrow)
- 1.2 The top view
- 1.3 The left/Right view

Show all hidden detail and center line.





## TASK 1 Top View: Hole ø14 <del>----</del>30 <del>---</del> 130 130 Side View Front View -30 → 40 — **-15** -18

#### Task 1 Commands

Select object to trim or shift-select to

extend or [cuTting

edges/Crossing/mOde/Project/eRase/Un

do]: \*Cancel\*
Command:
Command:
\*\* STRETCH \*\*

Specify stretch point or [Base point/Copy/Undo/eXit]:
Specify stretch point or [Base point/Copy/Undo/eXit]:
Command: \*Cancel\*

Command: Command: \*\* STRETCH \*\*

Specify stretch point or [Base point/Copy/Undo/eXit]:
Specify stretch point or [Base point/Copy/Undo/eXit]:
Command: \*Cancel\*
Command: TRIM

Current settings: Projection=View,

Edge=None, Mode=Quick

Select object to trim or shift-select to

extend or [cuTting

edges/Crossing/mOde/Project/eRase]: Select object to trim or shift-select to

extend or [cuTting

edges/Crossing/mOde/Project/eRase/Un

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Select object to trim or shift-select to

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edges/Crossing/mOde/Project/eRase/Un

do]: u

Select object to trim or shift-select to

extend or [cuTting

edges/Crossing/mOde/Project/eRase/Un

do]: \*Cancel\*

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: \*Cancel\*

Command:

Command: \*Cancel\*

Command: \_dim

Select objects or specify first extension

line origin or

Command: \*Cancel\*
Command: \*Cancel\*

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: \*Cancel\*

Command: \*Cancel\*

Command:

Command: \_.erase 1 found Command: \*Cancel\*

Command:

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: \*Cancel\*

Command: \*Cancel\*

Command: Command: MI MIRROR 1 found

Specify first point of mirror line: Specify second point of mirror line: Erase source objects? [Yes/No] <No>:

\*Cancel\*

Command: MIRROR Select objects: 1 found

Select objects:

Specify first point of mirror line: Specify second point of mirror line: Erase source objects? [Yes/No] <No>:

\*Cancel\*
Command:

Command: MIRROR

1 found

Specify first point of mirror line: Specify second point of mirror line: Erase source objects? [Yes/No] <No>:

Command: TR

TRIM

Current settings: Projection=View,

Edge=None, Mode=Quick

Select object to trim or shift-select to

extend or [cuTting

edges/Crossing/mOde/Project/eRase]: Select object to trim or shift-select to

extend or [cuTting

edges/Crossing/mOde/Project/eRase/Un

dol.

Select objects: Specify opposite corner: 2

found (1 duplicate), 3 total

Select objects:
Command: o\*Cancel\*

Command: Command: Select object to trim or shift-select to

extend or [cuTting

edges/Crossing/mOde/Project/eRase/Und

o]:

Select object to trim or shift-select to

extend or [cuTting

edges/Crossing/mOde/Project/eRase/Und

o]: \*Cancel\* Command:

Press ESC or ENTER to exit, or right-click to

display shortcut menu. Command: REC RECTANG

Specify first corner point or

[Chamfer/Elevation/Fillet/Thickness/Width

]:

Specify other corner point or [Area/Dimensions/Rotation]:d

Specify length for rectangles <70.0000>:

130

Specify width for rectangles <20.0000>: 20

Specify other corner point or [Area/Dimensions/Rotation]:

Command:

Press ESC or ENTER to exit, or right-click to

display shortcut menu. Command: RECTANG Specify first corner point or

[Chamfer/Elevation/Fillet/Thickness/Width

1:

Specify other corner point or [Area/Dimensions/Rotation]: d

Specify length for rectangles <130.0000>: Specify width for rectangles <20.0000>: 10

Specify other corner point or [Area/Dimensions/Rotation]:

Command:

Press ESC or ENTER to exit, or right-click to

display shortcut menu.

Command: Command: dim

Select objects or specify first extension line

origin or

[Angular/Baseline/Continue/Ordinate/aliG

n/Distribute/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliG n/Distribute/Layer/Undo]:

[Angular/Baseline/Continue/Ordinate/ali Command: Specify second extension line origin or Gn/Distribute/Layer/Undo]: Command: \*Cancel\* [Undo]: Specify first extension line origin or Command: Specify opposite corner or Specify second extension line origin or [Angular/Baseline/Continue/Ordinate/ali [Fence/WPolygon/CPolygon]: \*Cancel\* [Undo]: Gn/Distribute/Layer/Undo]: Command: OFFSET Specify dimension line location or second Specify second extension line origin or Current settings: Erase source=No line for angle [Mtext/Text/text [Undo]: Layer=Source OFFSETGAPTYPE=0 a Ngle/Undo]: Specify dimension line location or second Specify offset distance or Specify dimension line location or second line for angle [Mtext/Text/text line for angle [Mtext/Text/text [Through/Erase/Layer] <20.0000>: a Ngle/Undo]: Select object to offset or [Exit/Undo] a Ngle/Undo]: Select objects or specify first extension <Exit>: Command: line origin or Cannot offset that object. TRIM [Angular/Baseline/Continue/Ordinate/ali Specify point on side to offset or Current settings: Projection=View, Gn/Distribute/Layer/Undo]: [Exit/Multiple/Undo] <Exit>: Edge=None, Mode=Quick Select objects or specify first extension Select object to offset or [Exit/Undo] Select object to trim or shift-select to line origin or <Exit>: extend or [Angular/Baseline/Continue/Ordinate/ali Cannot offset that object. [cuTting Gn/Distribute/Layer/Undo]: >>Press ESC or ENTER to exit, or rightedges/Crossing/mOde/Project/eRase]: Select objects or specify first extension click to display shortcut menu. Select object to trim or shift-select to line origin or Cannot offset that object. extend or [Angular/Baseline/Continue/Ordinate/ali Resuming OFFSET command. [cuTting Gn/Distribute/Layer/Undo]: Select object to offset or [Exit/Undo] edges/Crossing/mOde/Project/eRase/Und Command: <Exit>: \*Cancel\* o]: \*Cancel\* Press ESC or ENTER to exit, or right-click Command: I Command: to display shortcut menu. LINE Command: .erase 1 found Command: REC Specify first point: Command: OFFSET **RECTANG** Command: Current settings: Erase source=No Specify first corner point or Command: Layer=Source OFFSETGAPTYPE=0 [Chamfer/Elevation/Fillet/Thickness/Wid Command: Specify offset distance or [Through/Erase/Layer] <14.0000>: 7 th]: Command: Specify other corner point or Command: Select object to offset or [Exit/Undo] <Exit>: [Area/Dimensions/Rotation]:d Command: Specify length for rectangles <130.0000>: Command: dim Specify point on side to offset or Select objects or specify first extension [Exit/Multiple/Undo] <Exit>: Specify width for rectangles <10.0000>: Select object to offset or [Exit/Undo] line origin or [Angular/Baseline/Continue/Ordinate/ali <Exit>: \*Cancel\* Gn/Distribute/Layer/Undo]: Command: Specify other corner point or [Area/Dimensions/Rotation]: Specify first extension line origin or Command: [Angular/Baseline/Continue/Ordinate/ali Specify other corner point or Command: dim Select objects or specify first extension line [Area/Dimensions/Rotation]: Gn/Distribute/Layer/Undo]: Command: \*Cancel\* Specify second extension line origin or origin or Command: EXPLODE [Angular/Baseline/Continue/Ordinate/aliG Select objects: 1 found Specify dimension line location or second n/Distribute/Layer/Undo]: line for angle [Mtext/Text/text Select objects or specify first extension line Select objects: 1 found, 2 total Specify next point or [Undo]: 7 aNgle/Undo]: origin or Specify next point or [Undo]: Select objects or specify first extension [Angular/Baseline/Continue/Ordinate/aliG Specify next point or [Close/Undo]: line origin or n/Distribute/Layer/Undo]:dst [Angular/Baseline/Continue/Ordinate/ali \*Cancel\* Select objects or specify first extension line Gn/Distribute/Layer/Undo]: Command: OFFSET origin or Current settings: Erase source=No Specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliG Layer=Source OFFSETGAPTYPE=0 [Angular/Baseline/Continue/Ordinate/ali n/Distribute/Layer/Undo]: Specify offset distance or Gn/Distribute/Layer/Undo]: Select objects or specify first extension line [Through/Erase/Layer] <20.0000>: 14 Specify second extension line origin or origin or

[Undo]:

Select object to offset or [Exit/Undo] <Exit>: Specify point on side to offset or [Exit/Multiple/Undo] <Exit>: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Automatic save to C:\Users\fahim\AppData\Local\Temp\La b 08\_1\_11485\_d0d33adf.sv\$ ... Command: Command: TR Command: DST DIMSTYLE Command: Command: Command: \_dim Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: Specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: Specify second extension line origin or [Undo]: Specify dimension line location or second line for angle [Mtext/Text/text a Ngle/Undo]: Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: Specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: Specify second extension line origin or [Undo]: Specify dimension line location or second line for angle [Mtext/Text/text a Ngle/Undol:

Select objects or specify first extension

Gn/Distribute/Layer/Undo]:

Gn/Distribute/Layer/Undo]:

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[Angular/Baseline/Continue/Ordinate/ali

line origin or

Command:

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]: Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: Specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: Specify second extension line origin or [Undo]: Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]: Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: Specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: Specify second extension line origin or [Undo]: Specify dimension line location or second line for angle Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/ali Gn/Distribute/Layer/Undo]: >>Press ESC or ENTER to exit, or rightclick to display shortcut menu. Resuming DIM command.

[Angular/Baseline/Continue/Ordinate/aliG n/Distribute/Layer/Undo]: Command: \*Cancel\* Command: \*Cancel\* Command: >>Press ESC or ENTER to exit, or right-click to display shortcut menu. Resuming DIM command. Command: Command: Specify second extension line origin or [Undo]: Command: Press ESC or ENTER to exit, or right-click to display shortcut menu. Command: DST **DIMSTYLE** Command: Command: \_ai\_selall Selecting objects...done. Command: \*Cancel\* Command: Command: Command: PE **PEDIT** Select polyline or [Multiple]: Select polyline or [Multiple]: m Select objects: Specify opposite corner: 12 found Select objects: Convert Lines, Arcs and Splines to polylines [Yes/No]? <Y> Enter an option [Close/Open/Join/Width/Fit/Spline/Decurv e/Ltype gen/Reverse/Undo]: w Specify new width for all segments: .5 Enter an option [Close/Open/Join/Width/Fit/Spline/Decurv e/Ltype gen/Reverse/Undo]: \*Cancel\* Command: Press ESC or ENTER to exit, or right-click to

display shortcut menu.

# TASK 2 Top view -24 Side view Side View Front View **⊢24** ¬ <del>-90</del> --25-----<del>-</del>

#### TASK 2 COMMANDS

Press ESC or ENTER to exit, or right-click to display Command: TR **TRIM** shortcut menu. Command: Current settings: Projection=View, Edge=None, Mode=Quick Command: Select object to trim or shift-select to extend or Command: Command: [cuTting edges/Crossing/mOde/Project/eRase]: Select object to trim or shift-select to extend or Command: I [cuTting LINE edges/Crossing/mOde/Project/eRase/Undo]: Specify first point: Select object to trim or shift-select to extend or Specify next point or [Undo]: 210 [cuTting Specify next point or [Undo]: 106 edges/Crossing/mOde/Project/eRase/Undo]: Specify next point or [Close/Undo]: 210 Select object to trim or shift-select to extend or Specify next point or [Close/Undo]: Specify next point or [Close/Undo]: \*Cancel\* [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Command: o Select object to trim or shift-select to extend or OFFSET [cuTting Current settings: Erase source=No Layer=Source OFFSETGAPTYPE=0 edges/Crossing/mOde/Project/eRase/Undo]: Select object to trim or shift-select to extend or Specify offset distance or [Through/Erase/Layer] <53.0000>: 25 [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Select object to offset or [Exit/Undo] <Exit>: Select object to trim or shift-select to extend or Specify point on side to offset or [Exit/Multiple/Undo] [cuTting <Exit>: edges/Crossing/mOde/Project/eRase/Undo]: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Specify point on side to offset or [Exit/Multiple/Undo] Command: <Exit>: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Press ESC or ENTER to exit, or right-click to display shortcut menu. Automatic save to Command: C:\Users\fahim\AppData\Local\Temp\Task\_2\_Lab\_08\_1\_ 18905 f62eb1a0.sv\$ ... Command: m MOVE 1 found Command: Specify base point or [Displacement] Command: I Specify first point: <Displacement>: Specify second point or <use first point as Specify next point or [Undo]: Specify next point or [Undo]: \*Cancel\* displacement>: Specify second point or <use first point as displacement>: [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Command: \*Cancel\* Select object to trim or shift-select to extend or Command: [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Command: o Select object to trim or shift-select to extend or **OFFSET** [cuTting edges/Crossing/mOde/Project/eRase/Undo]:

Current settings: Erase source=No Layer=Source Select object to trim or shift-select to extend or OFFSETGAPTYPE=0 [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Specify offset distance or [Through/Erase/Layer] Select object to trim or shift-select to extend or <25.0000>: 20 [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Select object to offset or [Exit/Undo] <Exit>: Select object to trim or shift-select to extend or Specify point on side to offset or [cuTting edges/Crossing/mOde/Project/eRase/Undo]: [Exit/Multiple/Undo] <Exit>: \*Cancel\* Select object to offset or [Exit/Undo] <Exit>: Command: o OFFSET Specify point on side to offset or [Exit/Multiple/Undo] <Exit>: Current settings: Erase source=No Layer=Source Select object to offset or [Exit/Undo] <Exit>: OFFSETGAPTYPE=0 \*Cancel\* Specify offset distance or [Through/Erase/Layer] Command: <20.0000>: 45 Command: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Command: \_circle Command: EXP **EXPORT** Specify center point for circle or [3P/2P/Ttr (tan tan radius)]: \*Cancel\* Enter file name (extension defines export type) Command: <E:\Semester 4\Engineering Drawing\Lab Command: 08\Task\_2\_Lab\_08.dwf>: \*Cancel\* Command: \_circle Command: EXPLODE Specify center point for circle or [3P/2P/Ttr (tan Select objects: 1 found tan radius)]: 1 was not able to be exploded. Specify radius of circle or [Diameter] <45.0000>: Select objects: 1 found, 0 total 40 1 was not able to be exploded. Command: \*Cancel\* Select objects: 1 found, 0 total Command: TR 1 was not able to be exploded. **TRIM** Select objects: 1 found, 0 total Current settings: Projection=View, Edge=None, 1 was not able to be exploded. Mode=Quick Select objects: 1 found, 0 total Select object to trim or shift-select to extend or 1 was not able to be exploded. [cuTting edges/Crossing/mOde/Project/eRase]: Select objects: Select object to trim or shift-select to extend or None found. [cuTting Command: I edges/Crossing/mOde/Project/eRase/Undo]: Specify next point or [Undo]: Select object to trim or shift-select to extend or Specify next point or [Close/Undo]: u Specify next point or [Undo]: [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Specify next point or [Close/Undo]: \*Cancel\* Select object to trim or shift-select to extend or Command: o **OFFSET** cuTting edges/Crossing/mOde/Project/eRase/Undo]: Current settings: Erase source=No Layer=Source Select object to trim or shift-select to extend or OFFSETGAPTYPE=0 LINE Specify offset distance or [Through/Erase/Layer]

<24.0000>: 45

Specify first point:

Specify next point or [Undo]: 45 Select object to offset or [Exit/Undo] <Exit>: Specify next point or [Undo]: Specify point on side to offset or [Exit/Multiple/Undo] Specify next point or [Close/Undo]: \*Cancel\* <Exit>: Command: LINE Select object to offset or [Exit/Undo] <Exit>: Specify first point: Specify point on side to offset or [Exit/Multiple/Undo] Specify next point or [Undo]: 41 <Exit>: Specify next point or [Undo]: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Specify next point or [Close/Undo]: \*Cancel\* Command: tr TRIM Command: o **OFFSET** Current settings: Projection=View, Edge=None, Current settings: Erase source=No Layer=Source Mode=Quick OFFSETGAPTYPE=0 Select object to trim or shift-select to extend or Specify offset distance or [Through/Erase/Layer] [cuTting edges/Crossing/mOde/Project/eRase]: <45.0000>: 24 Select object to trim or shift-select to extend or Select object to offset or [Exit/Undo] <Exit>: [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Specify point on side to offset or \*Cancel\* [Exit/Multiple/Undo] <Exit>: Command: EX Select object to offset or [Exit/Undo] <Exit>: **EXTEND** Select object to offset or [Exit/Undo] <Exit>: Current settings: Projection=View, Edge=None, Specify point on side to offset or Mode=Quick [Exit/Multiple/Undo] <Exit>: Select object to extend or shift-select to trim or Select object to offset or [Exit/Undo] <Exit>: [Boundary edges/Crossing/mOde/Project]: \*Cancel\* Select object to extend or shift-select to trim or Command: [Boundary edges/Crossing/mOde/Project/Undo]: Command: \_.erase 1 found \*Cancel\* Command: Command: Command: \_.erase 1 found Specify dimension line location or second line for angle Command: [Mtext/Text/text aNgle/Undo]: Command: Select objects or specify first extension line origin or Command: [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La Command: yer/Undo]: Command: I Select objects or specify first extension line origin or LINE [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La Specify first point: yer/Undo]: Specify next point or [Undo]: Select objects or specify first extension line origin or Command: [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La Command: \_dim yer/Undo]: Select objects or specify first extension line origin Select objects or specify first or Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distri [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La bute/Layer/Undo]: yer/Undo]:

Specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distri

Specify second extension line origin or [Undo]:

extension line origin or

bute/Layer/Undo]:

[Angular/Baseline/Continue/Ordinate/aliGn/Distri

bute/Layer/Undo]:
Command: \*Cancel\*

Command: \_u DIM GROUP

Command:
Command: \_dim

Select objects or specify first extension line origin

or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distri

bute/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/Layer/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distri

bute/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for

angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin

or

[Angular/Baseline/Continue/Ordinate/aliGn/Distri

bute/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distri

bute/Layer/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La

yer/Undo]:

Command:

Command: \_dim

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La

yer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La

yer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle

[Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La

yer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La

yer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle

[Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La

yer/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La

yer/Undo]:

Command:

Command: \_.erase 1 found

Command:

Command: \_.erase 1 found

Dimension extension disassociated.

Command:

Command: \_.erase 1 found

Dimension disassociated.

Command: \*Cancel\*

Command: I\*Cancel\*

Command:

Command:

Command:

Command:

Command: I Specify second extension line origin or [Undo]: Specify dimension line location or second line for LINE angle [Mtext/Text/text aNgle/Undo]: Specify first point: Select objects or specify first extension line origin Specify next point or [Undo]: 411 or Specify next point or [Undo]: u [Angular/Baseline/Continue/Ordinate/aliGn/Distri Specify next point or [Undo]: Zero length line created at (5059.0088, 3073.0221, 0.0000) bute/Layer/Undo]: Specify first extension line origin or Specify next point or [Undo]: 41 [Angular/Baseline/Continue/Ordinate/aliGn/Distri Specify next point or [Close/Undo]: bute/Layer/Undo]: Specify next point or [Close/Undo]: \*Cancel\* Specify second extension line origin or [Undo]: Command: o Specify dimension line location or second line for **OFFSET** angle [Mtext/Text/text aNgle/Undo]: Current settings: Erase source=No Layer=Source Select objects or specify first extension line origin OFFSETGAPTYPE=0 or Specify offset distance or [Through/Erase/Layer] <45.0000>: 24 [Angular/Baseline/Continue/Ordinate/aliGn/Distri bute/Layer/Undo]: Select object to offset or [Exit/Undo] <Exit>: Select objects or specify first extension line origin Specify point on side to offset or [Exit/Multiple/Undo] or <Exit>: [Angular/Baseline/Continue/Ordinate/aliGn/Distri Select objects or specify first extension line origin or bute/Layer/Undo]: [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La Select object to offset or [Exit/Undo] <Exit>: yer/Undo]: Cannot offset that object. Select objects or specify first extension line origin or Cannot offset that object. [Angular/Baseline/Continue/Ordinate/aliGn/Distribute/La Select object to offset or [Exit/Undo] <Exit>: yer/Undo]:Command: \_dimradius \*Cancel\* Select arc or circle: Dimension text = 40Command: Command: \_.erase 1 found Specify dimension line location or [Mtext/Text/Angle]: Command: Command: Command: \_.erase 1 found Command: Command: \*\* STRETCH \*\* Command: \_dim Specify stretch point or [Base point/Copy/Undo/eXit]: Select objects or specify first extension line origin <Polar on> Dimension disassociated. or [Angular/Baseline/Continue/Ordinate/aliGn/Distri Command: Specify opposite corner or bute/Layer/Undo]: [Fence/WPolygon/CPolygon]: Specify first extension line origin or Command: Specify opposite corner or [Angular/Baseline/Continue/Ordinate/aliGn/Distri [Fence/WPolygon/CPolygon]: Command: \*Cancel\* bute/Layer/Undo]: Specify second extension line origin or [Undo]: Command: Command: Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]: Command: \_qsave

### TASK 3 Top View <sub>F</sub>20<sub>7</sub> <del>+60</del> – -20 ¬ 100 <del>-30-</del> Side view Front View 1<del>-</del>30-120 1 4Θ <del>-30</del> 30-120i<del>-</del>30-−i **-20** <sup>-1</sup>

#### TASK 3 Commands

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]:

Non-associative dimension created.

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]:

Non-associative dimension created.

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for

angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for

angle [Mtext/Text/text aNgle/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Command:

Command:

\*\* STRETCH \*\*

Specify stretch point or [Base point/Copy/Undo/eXit]:

Command: Specify opposite corner or [Fence/WPolygon/CPolygon]: \*Cancel\*

Command: \*Cancel\*

Command:

Command: \_.erase 1 found

Command: Command:

Command: \_dim

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Non-associative dimension created.

Specify dimension line location or

[Mtext/Text/Angle/Horizontal/Vertical/Rotated]:

Dimension text = 10Dimension text = 10

Command:

Select objects or specify first extension line origin or Command: [Angular/Baseline/Continue/Ordinate/aliGn/Distribut Command: Command: \*Cancel\* e/Layer/Undo]: Specify first extension line origin or Command: [Angular/Baseline/Continue/Ordinate/aliGn/Distribut Command: m MOVE 1 found e/Layer/Undo]: Specify dimension line location or second line for Specify base point or [Displacement] angle [Mtext/Text/text aNgle/Undo]: <Displacement>: Specify second point or <use first point as Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut displacement>: e/Layer/Undo]: Specify second point or <use first point as Specify first extension line origin or displacement>: [Angular/Baseline/Continue/Ordinate/aliGn/Distribut Command: \*Cancel\* e/Layer/Undo]: Command: Specify second extension line origin or [Undo]: Press ESC or ENTER to exit, or right-click to display Specify dimension line location or second line for shortcut menu. angle [Mtext/Text/text aNgle/Undo]: <Polar on> Command: Specify opposite corner or Non-associative dimension created. [Fence/WPolygon/CPolygon]: \*Cancel\* Select objects or specify first extension line origin or Command: [Angular/Baseline/Continue/Ordinate/aliGn/Distribut Press ESC or ENTER to exit, or right-click to display e/Layer/Undo]: shortcut menu. Specify first extension line origin or Command: I [Angular/Baseline/Continue/Ordinate/aliGn/Distribut LINE e/Layer/Undo]: Specify first point: Specify first extension line origin or Specify next point or [Undo]: <Ortho on> \*Cancel\* [Angular/Baseline/Continue/Ordinate/aliGn/Distribut Command: Command: e/Layer/Undo]: Specify second extension line origin or [Undo]: Command: Command: Command: Command: \_.erase 1 found LINE Command: Specify first point: Command: Specify next point or [Undo]: 100 Command: \_dimlinear Select object to offset or [Exit/Undo] <Exit>: Specify first extension line origin or <select object>: Specify point on side to offset or [Exit/Multiple/Undo] Specify second extension line origin: <Exit>: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Command: I Specify next point or [Undo]: 100 Command: I Specify next point or [Close/Undo]: 100 LINE Specify next point or [Close/Undo]: Specify first point: Specify next point or [Close/Undo]: \*Cancel\* Specify next point or [Undo]: Specify next point or [Undo]: \*Cancel\* Command: o **OFFSET** Command: TR

TRIM

Current settings: Erase source=No Layer=Source Current settings: Projection=View, Edge=None, OFFSETGAPTYPE=0 Mode=Ouick Specify offset distance or [Through/Erase/Layer] Select object to trim or shift-select to extend or <20.0000>: 50 [cuTting edges/Crossing/mOde/Project/eRase]: Select object to offset or [Exit/Undo] <Exit>: Select object to trim or shift-select to extend or Specify point on side to offset or [Exit/Multiple/Undo] [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Specify next fence point or [Undo]: Command: Specify next fence point or [Undo]: Automatic save to Select object to trim or shift-select to extend or C:\Users\fahim\AppData\Local\Temp\Task\_2\_Lab\_0 [cuTting 8\_1\_6820\_fdd9c9a1.sv\$ ... edges/Crossing/mOde/Project/eRase/Undo]: Command: Select object to trim or shift-select to extend or Command: \_.erase 1 found [cuTting Command: O edges/Crossing/mOde/Project/eRase/Undo]: **OFFSET** Select object to trim or shift-select to extend or Current settings: Erase source=No Layer=Source [cuTting OFFSETGAPTYPE=0 edges/Crossing/mOde/Project/eRase/Undo]: Specify offset distance or [Through/Erase/Layer] Select object to trim or shift-select to extend or <50.0000>: 25 [cuTting Select object to offset or [Exit/Undo] <Exit>: edges/Crossing/mOde/Project/eRase/Undo]: Specify point on side to offset or [Exit/Multiple/Undo] Select object to trim or shift-select to extend or <Exit>: [cuTting edges/Crossing/mOde/Project/eRase]: Select object to offset or [Exit/Undo] <Exit>: Select object to trim or shift-select to extend or Specify point on side to offset or [Exit/Multiple/Undo] [cuTting <Exit>: edges/Crossing/mOde/Project/eRase/Undo]: Select object to offset or [Exit/Undo] <Exit>: Select object to trim or shift-select to extend or Specify point on side to offset or [Exit/Multiple/Undo] [cuTting <Exit>: edges/Crossing/mOde/Project/eRase/Undo]: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Select object to trim or shift-select to extend or Command: OFFSET Current settings: Erase source=No Layer=Source edges/Crossing/mOde/Project/eRase/Undo]: OFFSETGAPTYPE=0 \*Cancel\* Specify offset distance or [Through/Erase/Layer] Command: Command: \_.erase 1 found <25.0000>: [cuTting edges/Crossing/mOde/Project/eRase/Undo]: Command: Command: \_.erase 1 found Select object to trim or shift-select to extend or [cuTting Command: EX edges/Crossing/mOde/Project/eRase/Undo]: **EXTEND** 

31

Mode=Quick

Current settings: Projection=View, Edge=None,

Select object to extend or shift-select to trim or

[Boundary edges/Crossing/mOde/Project]:

\*Cancel\*

**OFFSET** 

Command: o

Current settings: Erase source=No Layer=Source Select object to extend or shift-select to trim or OFFSETGAPTYPE=0 [Boundary edges/Crossing/mOde/Project/Undo]: Specify offset distance or [Through/Erase/Layer] 1\*Cancel\* <25.0000>: 50 Command: o **OFFSET** Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Command: O Current settings: Erase source=No Layer=Source **OFFSET** OFFSETGAPTYPE=0 Current settings: Erase source=No Layer=Source Specify offset distance or [Through/Erase/Layer] OFFSETGAPTYPE=0 <30.0000>: 30 Specify offset distance or [Through/Erase/Layer] Select object to offset or [Exit/Undo] <Exit>: <50.0000>: 20 Specify point on side to offset or [Exit/Multiple/Undo] Select object to offset or [Exit/Undo] <Exit>: <Exit>: Specify point on side to offset or [Exit/Multiple/Undo] Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* <Exit>: Command: TR Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* TRIM Command: OFFSET Current settings: Projection=View, Edge=None, Current settings: Erase source=No Layer=Source Mode=Quick OFFSETGAPTYPE=0 Select object to trim or shift-select to extend or Specify offset distance or [Through/Erase/Layer] [cuTting edges/Crossing/mOde/Project/eRase]: <20.0000>: 30 Command: I Select object to offset or [Exit/Undo] <Exit>: LINE Specify point on side to offset or [Exit/Multiple/Undo] Specify first point: <Exit>: Specify next point or [Undo]: Select object to offset or [Exit/Undo] <Exit>: \*Cancel\* Specify next point or [Undo]: \*Cancel\* Command: tr Command: TR **TRIM** TRIM Current settings: Projection=View, Edge=None, Current settings: Projection=View, Edge=None, Mode=Quick Mode=Quick Select object to trim or shift-select to extend or Select object to trim or shift-select to extend or [cuTting edges/Crossing/mOde/Project/eRase]: Select object to trim or shift-select to extend or Select object to trim or shift-select to extend or [cuTting [cuTting edges/Crossing/mOde/Project/eRase/Undo]: edges/Crossing/mOde/Project/eRase/Undo]: Specify next fence point or [Undo]: \*Cancel\* Specify next fence point or [Undo]: Command: Command: Specify next fence point or [Undo]: Command: \_dim Specify next fence point or [Undo]: Select object to trim or shift-select to extend or Select objects or specify first extension line origin or [cuTting [Angular/Baseline/Continue/Ordinate/aliGn/Distribut edges/Crossing/mOde/Project/eRase/Undo]: e/Layer/Undo]: \*Cancel\* Specify first extension line origin or Command: [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Command:
Command:
Command:

LINE

Specify first point: 10

Specify next point or [Undo]: \*Cancel\*

Command: \*Cancel\*

Command: I

LINE

Specify first point:

Specify next point or [Undo]:

Specify next point or [Undo]: \*Cancel\*

Command: u

LINE

Command: L

LINE

Specify first point:

Specify next point or [Undo]: 10 Specify next point or [Undo]:

Specify next point or [Close/Undo]: \*Cancel\*

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for

angle [Mtext/Text/text aNgle/Undo]:

Command: DIM

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for

angle [Mtext/Text/text aNgle/Undo]:

Specify dimension line location or second line for

angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Command: \_dim

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for

angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Command:

Command:

Command:

Command:

Command:

Command:

Command: \_dim

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for

angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Specify first extension line origin or

Select objects or specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut

e/Layer/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify first extension line origin or

[Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle [Mtext/Text/text aNgle/Undo]:

Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Specify first extension line origin or

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Specify second extension line origin or [Undo]:

Specify dimension line location or second line for angle

/Ordinate/aliGn/Distribute/Layer/Undo]:

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Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/aliGn/Distribut e/Layer/Undo]:

Command:

Automatic save to

C:\Users\fahim\AppData\Local\Temp\Task\_2\_Lab\_0 8\_1\_6820\_fdd9c9a1.sv\$ ...

Command:

Command:

Command:

Command: \_qsave

#### **Engineering Drawing Lab 08**

Method of Evaluation: Lab Report and in-lab marking by instructors.

**Measured Learning Outcomes** 

**CLO1:** Ability to read basic engineering drawings problems.

CLO3: Reproduce 2-D and 3-D sketches using AutoCAD by applying engineering drawing principles.

|                              | Excellent (10)  | Good (9 to 7)   | Satisfactory (6 to 4)  | Unsatisfactory (3 to 1)   | Poor (0)                                 | Marks Obtained |
|------------------------------|---|---|--|---|--|----------------|
| Assignment (CLO1)            | Required document<br>filled-in neatly with<br>meaningful answers to<br>all questions, proper<br>grammar and<br>punctuations with<br>proper conclusion drawn | Required document filled-in<br>neatly with meaningful<br>answers to most questions<br>and proper conclusions<br>drawn with some grammar<br>mistakes | Some correct/meaningful answers and conclusions with some irrelevant ones. Some parts of the document not neat or some grammar mistakes. | Answers not understandable/ not relevant to questions. Conclusions not based on results. Illegible writing with no proper grammar/punctuation | Report/Hand<br>out Not<br>submitted      |                |
| Task<br>Completion<br>(CLO3) | All Tasks were completed successfully in the time of the lab  | Most of the tasks were completed in the given time of the lab   | Some of the tasks were completed in the given lab time   | Very few tasks were performed and completed in given lab time   | Lab tasks<br>weren't<br>performed at all |                |
| Total                        |   |   |  |   |  |                |