Practical 2 – Lines

- Drawing Lines
- Using Cartesian Relative Coordinates
- Using Polar Coordinates
- Working with Template Worksheets
- Organizing information with Layers
- Moving (copying) Objects
- Writing Text
- Scale concept
- Printing PDF Documents

Exercise 1 – Working with template Worksheets

To make things easier for you, you visit the following link on the school website, where you can download two different worksheet templates prepared for your exercises:

https://grandecovian.es/index.php/tecmatimp/technology/cad/newtechdarwork-2

Download both files and open them using LibreCAD. Analyze the two files and answer the following questions:

1. What do these two files have in common?
2. What is the main difference between them?

Exercise 2 – Working with layers

Reopen the vertical worksheet template file and save it with a new name. The new file should be named: your_name_exercise_2.dxf, replacing "your_name" with your first and last name.

1. List the names of all layers.
2. Identify the color assigned to each layer.
3. For each layer, describe what type of information you think should be stored on it.
4. Explain the benefits of using layers in CAD design. (Study the differences between the "Dimensions" and "Main Drawing" layers...)

Exercise 3 – Drawing lines

Draw the five objects included in the attached worksheet to this exercise. Make sure that you are using the proper layer.

Use any tools and coordinate types (e.g., Cartesian, polar) that you have studied in this unit to complete the drawings accurately.

Exercise 4 – Title box text

Change to the "Text" layer to ensure that all text is placed correctly.

Write all the required information in the title box of the worksheet.

The easiest way to complete this task is by modifying or copying the existing text in the worksheet template.

To modify the text, follow these steps:

– Select the Tools option in the top menu.

– Choose the Modify option.

– Select Properties.

– Click on the text you want to modify and proceed to edit it.

To copy a text, follow these steps:

– Select the element(s) you want to copy in the drawing.

– Type the command **"move"** in the command line and press **Enter**.

– Specify the reference point from which you want to move the object. This is the point that will be "taken hold" of for the copy operation.

– Select the new position where you want to place the copied object, then click and press **Enter**.

– **Understanding the Options: "Delete Original" vs. "Keep Original"**

- **"Delete Original"**: If you select this option, only the copied version of the object will remain, and the original object will disappear.
- **"Keep Original"**: If you select this option, a new copy of the selected element will be created, and the original will remain in place.

Exercise 6 – Understanding Scale in Technical Drawing

The title box in your worksheet includes a box labeled "Scale", and the value in this box is 1:1.

What is the meaning of the expression "1:1"?

What do we call this type of expression (such as 1:1) in technical drawing?

There are three different types of scales in technical drawing:

– Natural Scale

– Reduction Scale

– Enlargement Scale

Explain the differences between these three types of scales.

Exercise 7 – PDF file

Print a PDF file version of your drawing.

Delivering your result

Send the following items to your teacher:

LibreCAD drawing file with all the required exercises completed.

Provide a PDF copy of your completed exercise.

- Text document containing the answers to exercises 1, 2 and 6.