

ITEC185

Introduction to Digital Media

AUTODESK AUTOCAD 2014-I



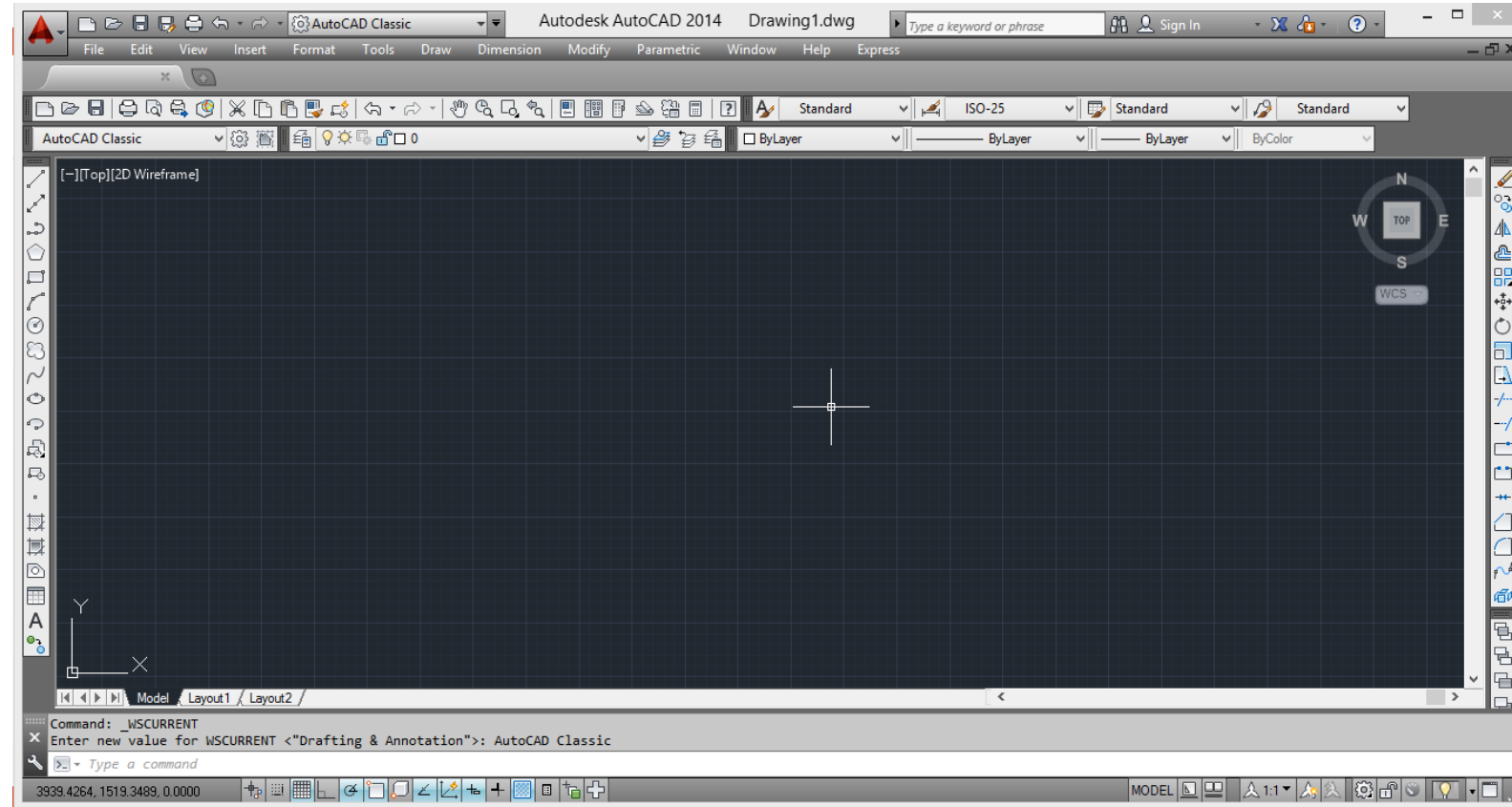
What is CAD software?

- CAD, or computer-aided design and drafting (CADD), is the use of computer technology for design and design documentation.
- CAD software replaces manual drafting with an automated process.
- If you work in the architecture, MEP, or structural engineering fields, you've probably used 2D or 3D CAD programs.
- These programs can help you explore design ideas, visualize concepts through photorealistic renderings, and simulate how a design will perform in the real world.
- AutoCAD software was the first CAD program, and it is still the most widely used CAD application.

What is AutoCAD software?

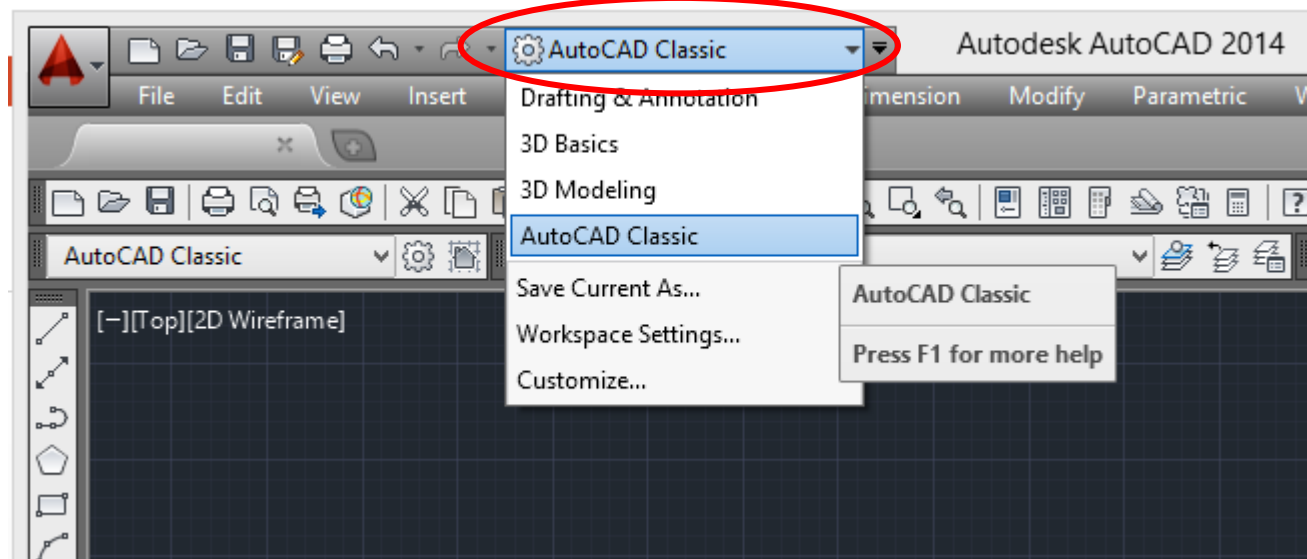
- AutoCAD is a trademarked product of Autodesk.
- AutoCAD is a specific piece of software used by many architects and designers for commercial design purposes.
- When you use AutoCAD, you have the ability to draft 2-D and 3-D designs and create photorealistic rendering.
- Because different fields use AutoCAD in specific ways, there are several versions of the AutoCAD application for a variety of work types, such as architecture, mapping and piping design.

What is AutoCAD software?

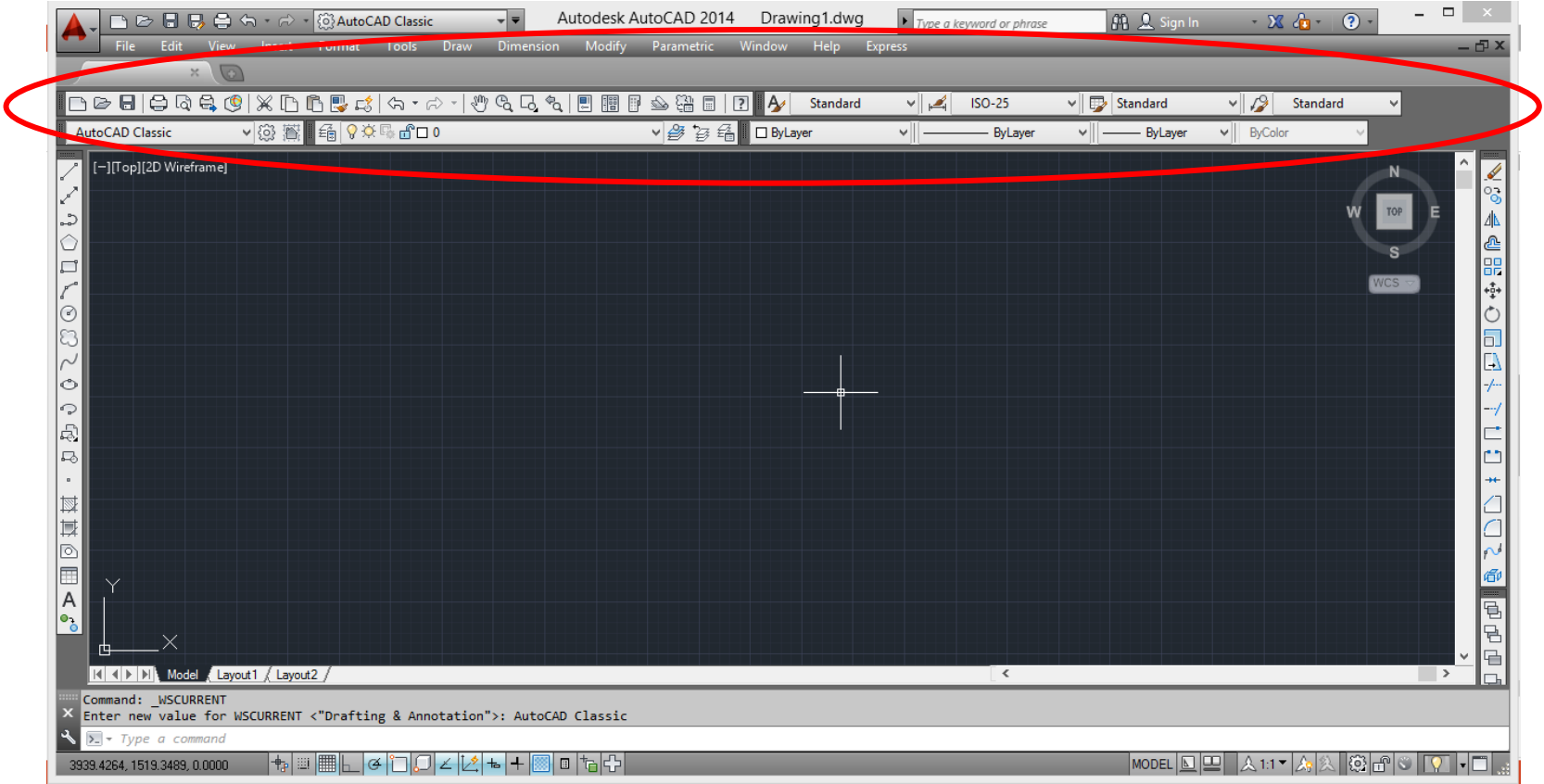


Workspace

- You can simply customize your workspace by using **Quick Access Toolbar**.
- In this example, you need to use **AutoCAD Classic**.

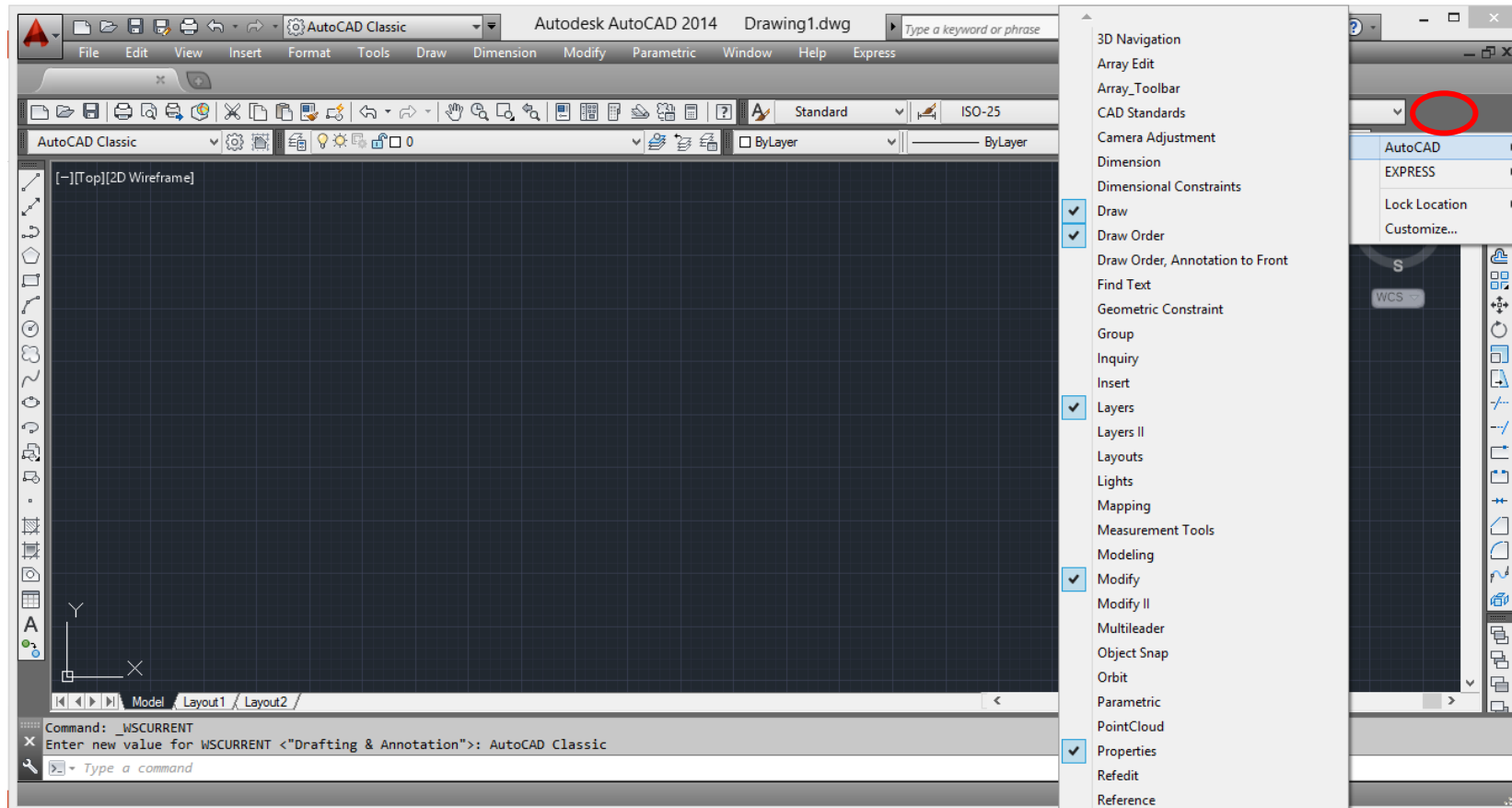


Panels and Tools



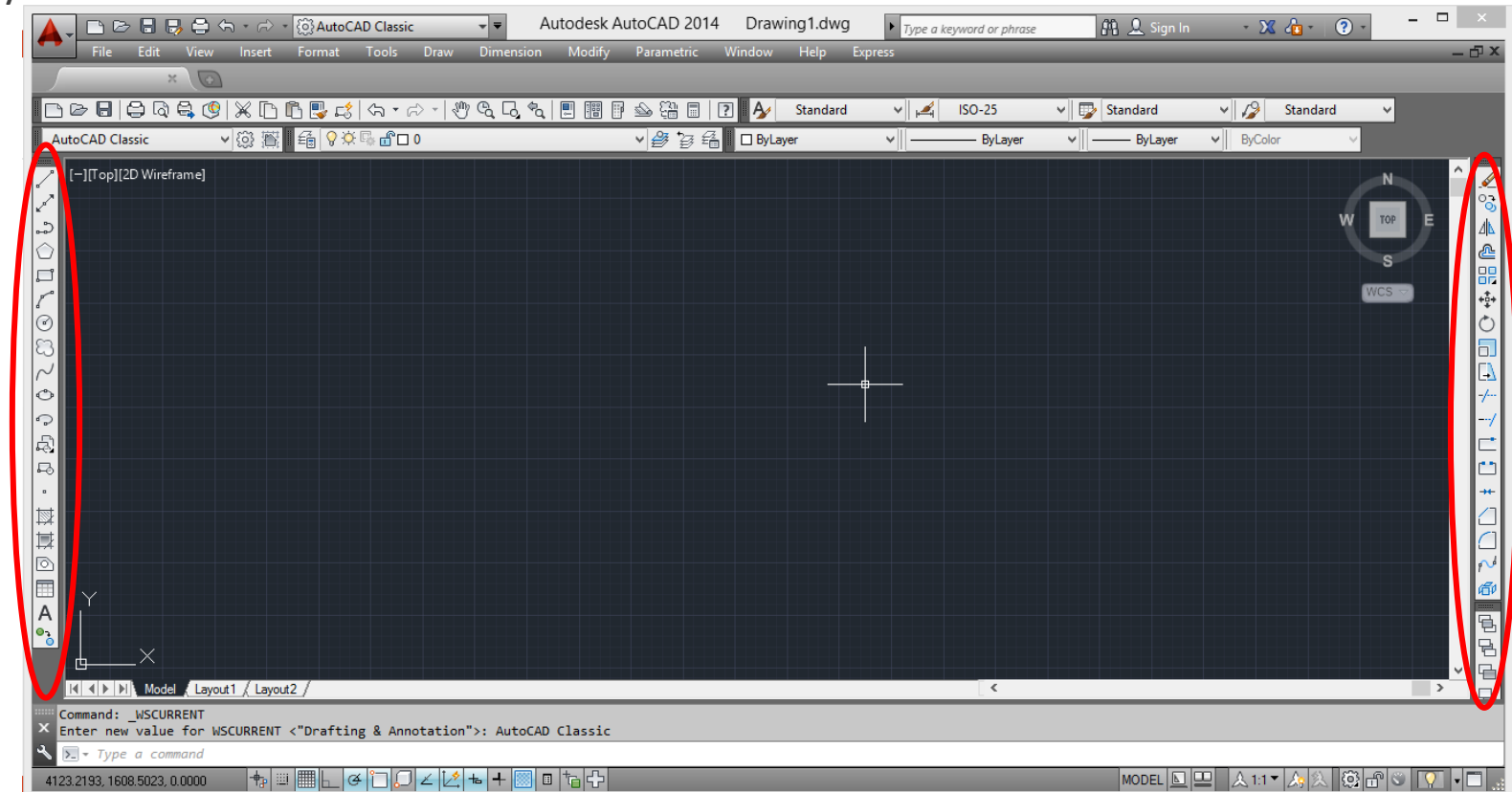
Panels and Tools

- When Tabs or Panels disappear sometime, you can **right-click** on the grey part of the menu bar to find them.



Panels and Tools

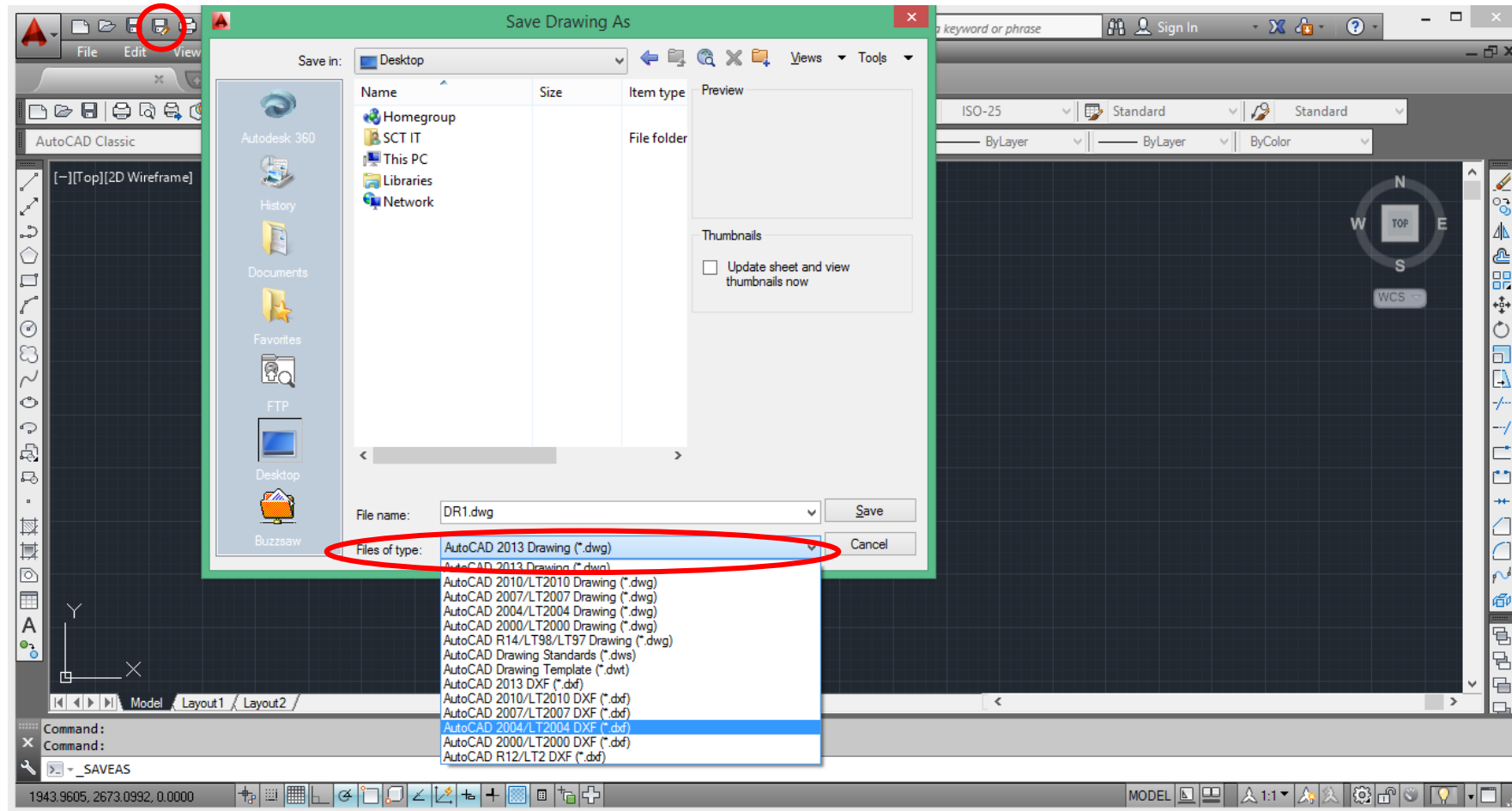
- In this example, you may need to use **Draw Toolbar** (on the left) and **Modify Toolbar** (on the right), so; please be sure that they are selected.



Versions of AutoCAD and Saving DWG File

- Just before you save your ***.DWG** file, you may need to check what version of AutoCAD you are using.
- If you save your file as a newer version of AutoCAD like **AutoCAD 2014**, it is no longer possible to open it with **AutoCAD 2007**.
- For instance, if you want to save a file in a format that your colleague using AutoCAD 2005 can open, you would choose **AutoCAD 2004** from the Files of type drop-down list.
- In this example, click on **Save** button available on the **Quick Access Toolbar**.
- Navigate the dialogbox opened to select the saving area.
- Give your file a name (**File name**).
- Choose **AutoCAD 2004** as the saving format (**Files of type**).

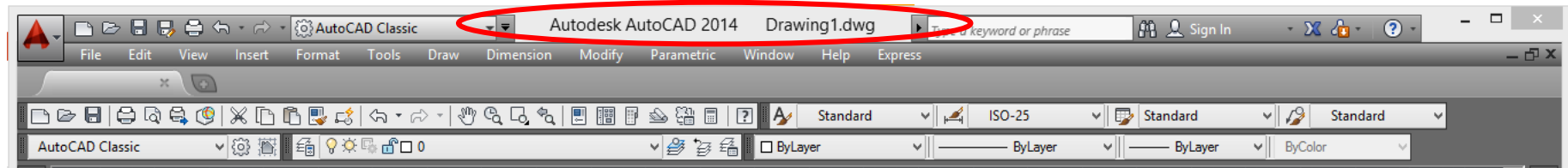
Versions of AutoCAD and Saving DWG File



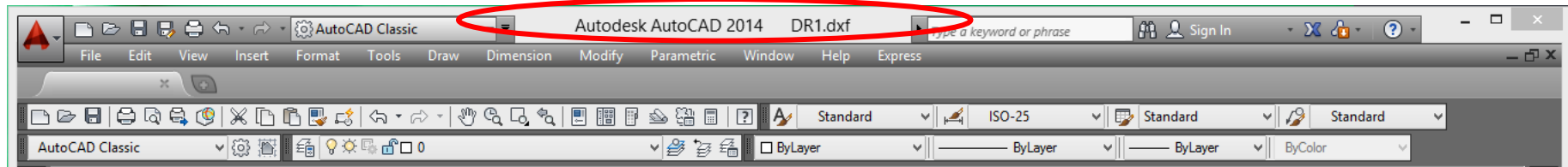
Versions of AutoCAD and Saving DWG File

- After you save your file, you may need to check if the drawing file is saved or not.
- To do this, you should check the name of the document.

- Before saved

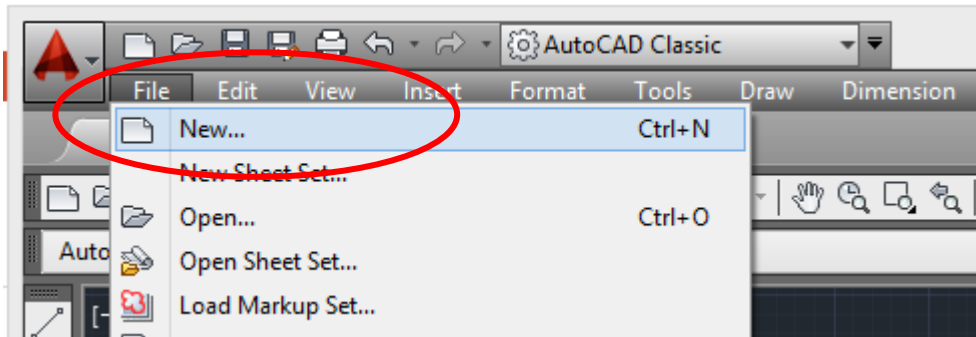


- After saved

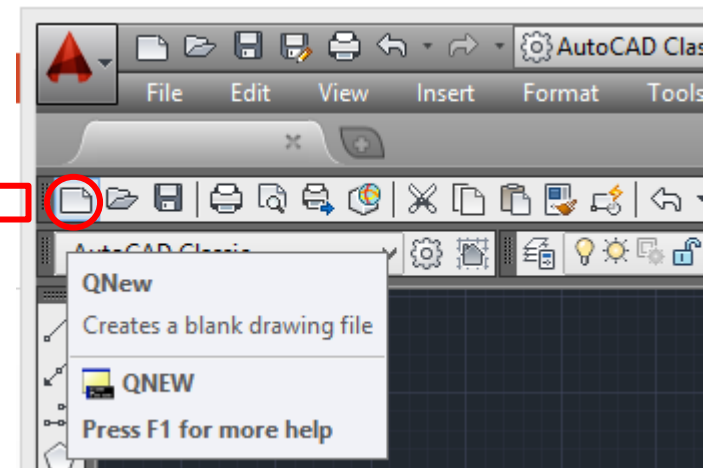


Opening A New Document

- Go to **Menu** and Select **File**. The drop-down list will be opened.
- From the list, select **New**.
- Or, there is also a shortcut button on the **Standard Toolbar**.

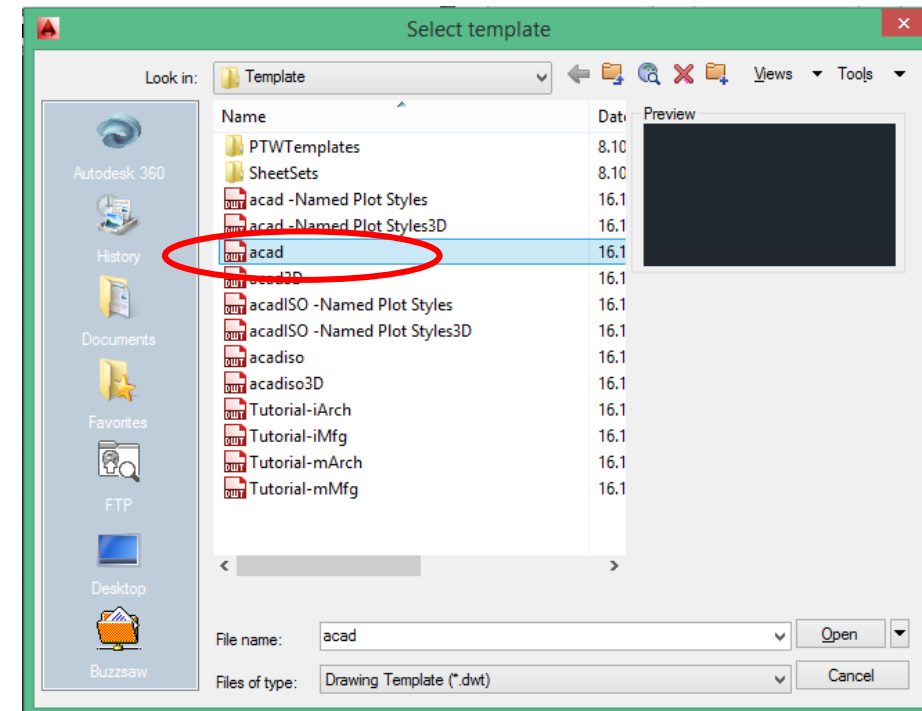


Standard
Toolbar



Opening A New Document

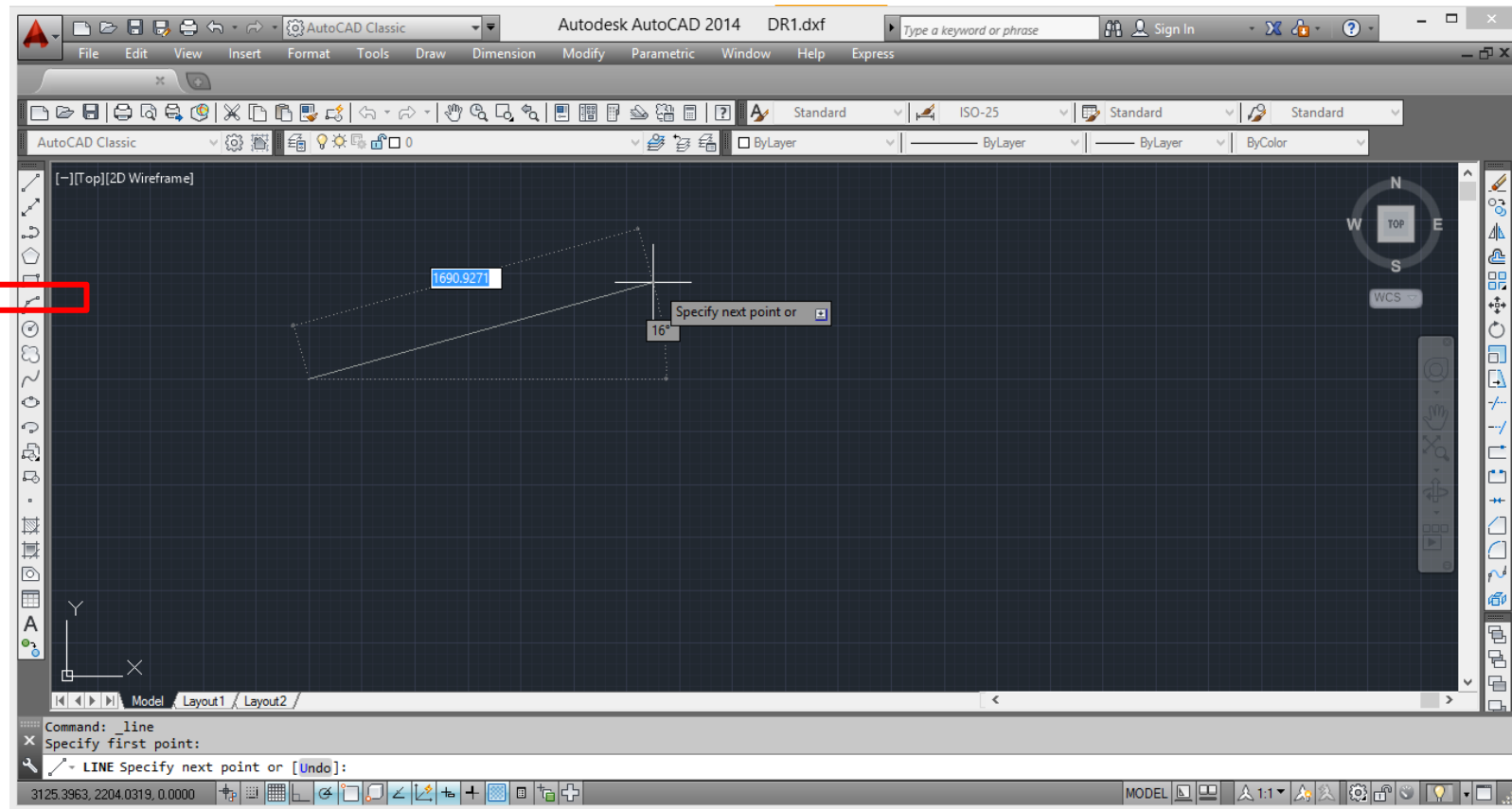
- **Select template** dialogbox will be shown.
- From the **template list**, please select **acad**.
- **Acad** is the blank template, however you have other options too.



Drawing Area

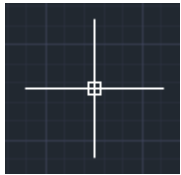
- Drawing area is the main window that you can draw a line and etc.

Drawing Area

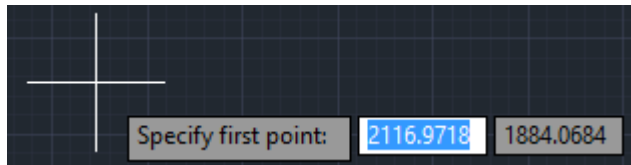


Cursors

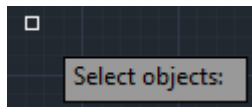
- When you are not in command, the cursor looks like a cross with a square in the middle.



- When you are in drawing-related commands, the square disappears.



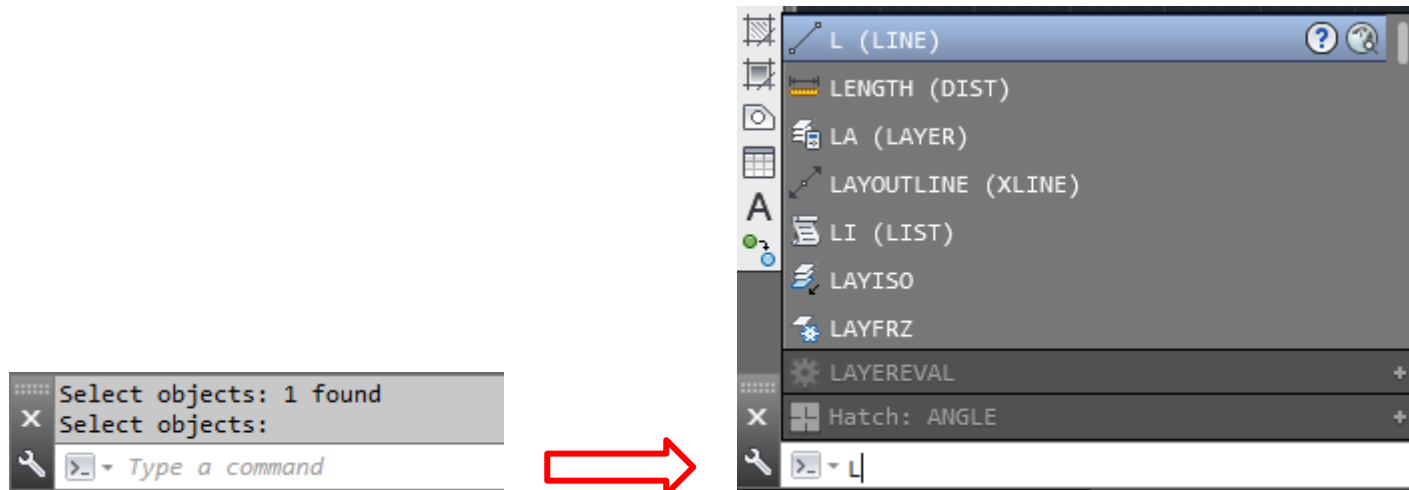
- When you are in modify-related commands, only the cross disappears.



- You can escape from a command by hitting **Esc** key.

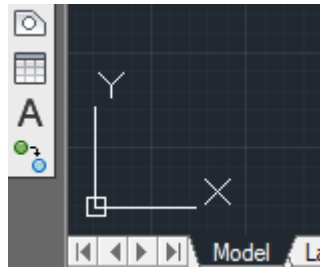
Command Line

- The Command window accepts command and system variable input and displays prompts that guide you through the command sequence.

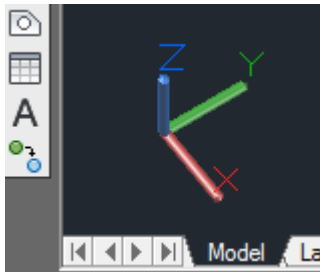


Coordinate Systems

- X and Y values are used in two dimensional (**2D**) coordinate system.

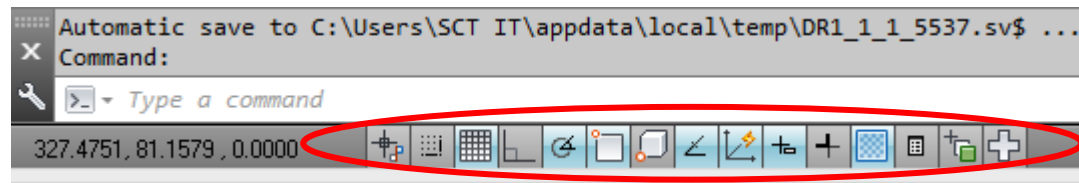


- However, X, Y and Z values are used in three dimensional (**3D**) coordinate system.



Status Toggles

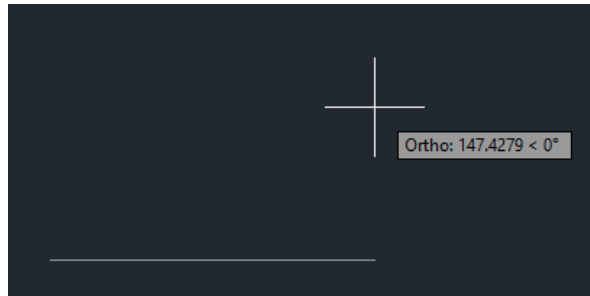
- There are settings that help you draw accurately.



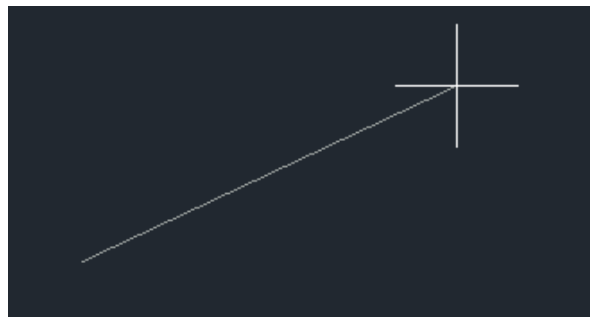
- Please deactivate the **Dynamic UCS**, **Dynamic Input**, **Polar Tracking** and **Grid Display** buttons.

Ortho Mode

- **Ortho Mode** restricts the movements to horizontal and vertical directions when it is **on**. In other words, you can draw a straight line on X or Y axis.

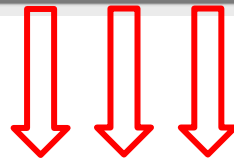
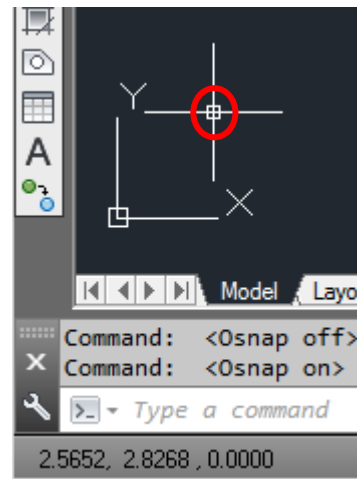


- However, you can draw a line with a degree if the Ortho Mode is **off**.



Drawing Coordinates

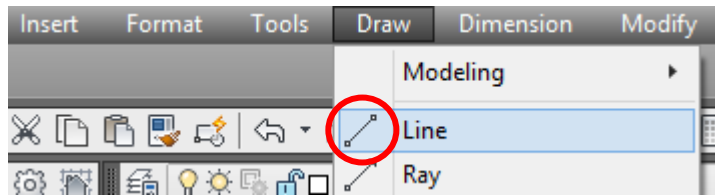
- **Drawing Coordinates** box shows what point the cursor is focused.



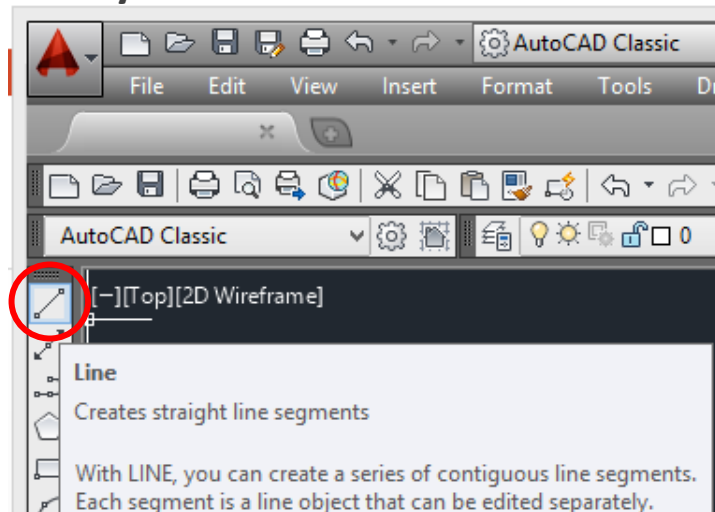
X Y Z (Z is 0 because, the example is given in 2D coordinate system)

Line

- There are three different ways to select the **line** command.
- **1. way:** Go to **Menu** and select **Draw**. From the drop-down list, select **Line**.

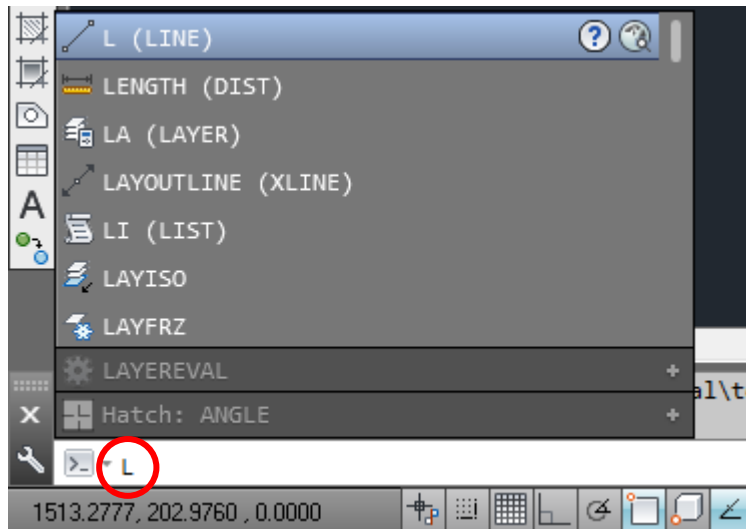


- **2. way:** Move the cursor over the **Draw Toolbar** and select **Line** shortcut button.



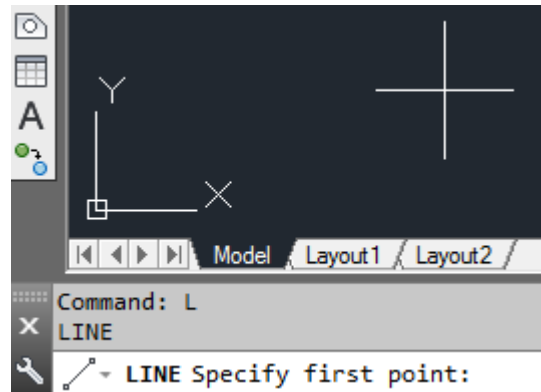
Line

- **3. way:** Go to **Command line**, type **l** or **line** and press **Enter**.



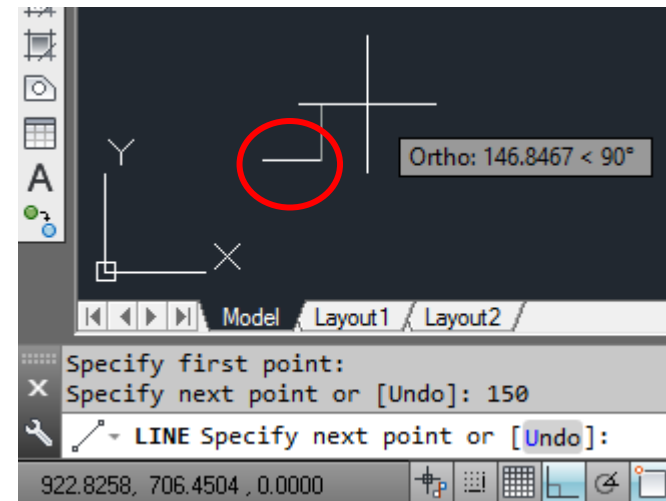
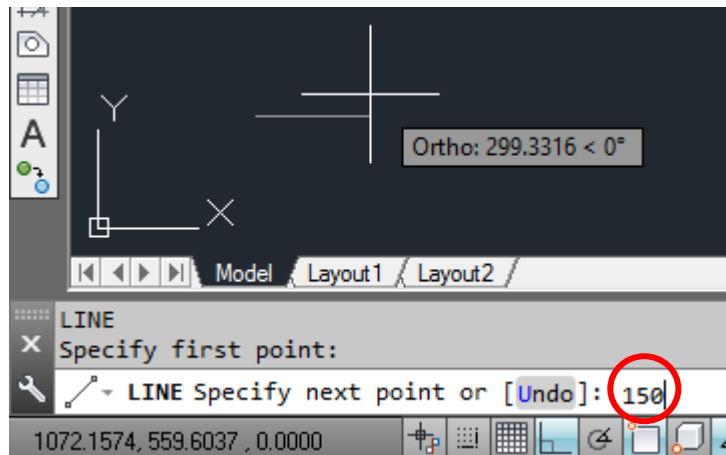
Line

- After the line is selected, you are going to be asked to specify the first point.
- A point can be clicked on the drawing area.



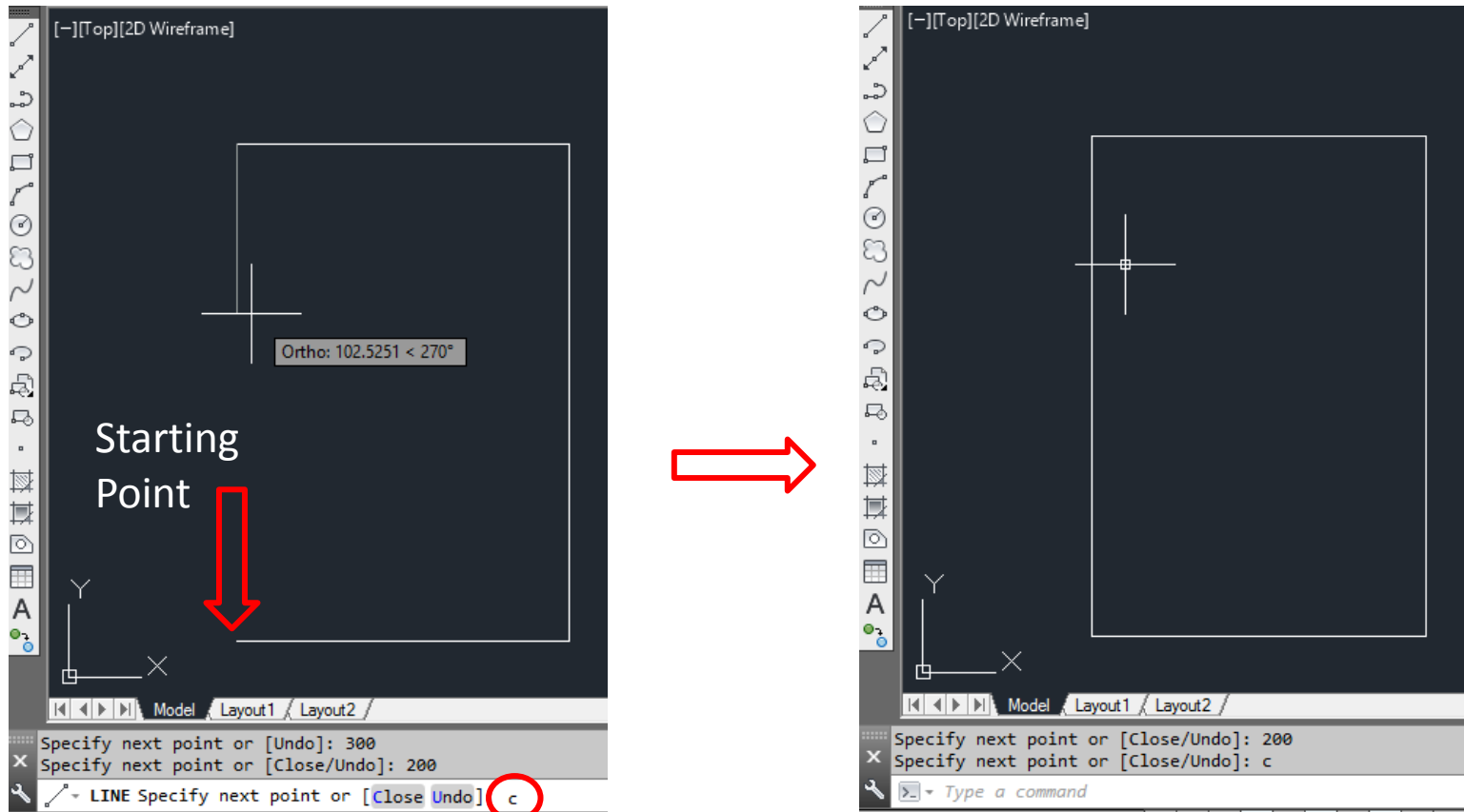
Line

- Then, the next point can be selected or a value can be entered.
- In this example, **Ortho Mode** should be on to define the path easily, so; please check it from **Status Toggles**.
- After specifying the first point, define which way the line will be drawn and type **150** to the command line and press **Enter**.



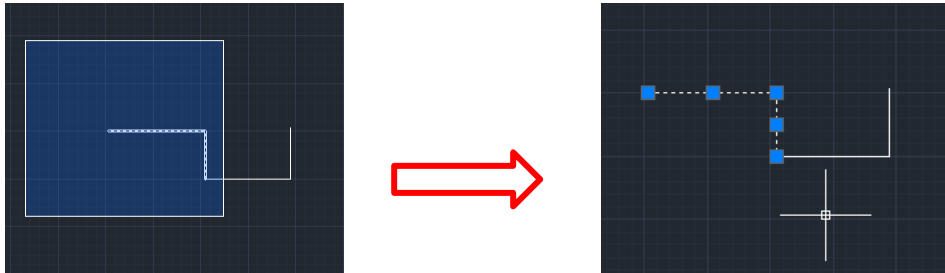
Line

- If you need to close a line (returning back to the starting point), you may need to use **C** command.

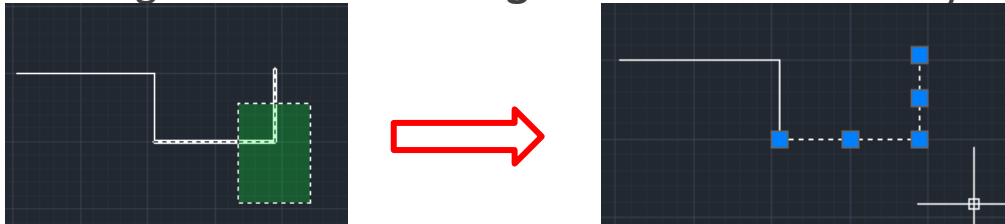


Select and Deselect

- You can **select** the objects by clicking on an object or drawing a window around it.
- Drawing a window **from left to right** selects everything that the window contains.



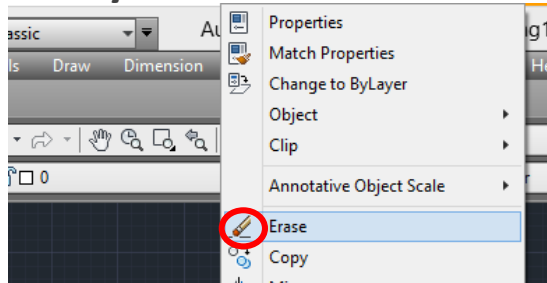
- Drawing a window **from right to left** selects everything that the window crosses.



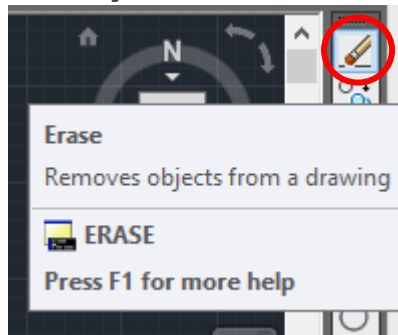
- You can **deselect** objects by doing the same operation while holding down **Shift** key, or deselect everything by hitting **Esc** key.

Erase

- **Erase** is a **Modify** command that erases the selected object(s) from the drawing area.
- There are three ways to remove an object.
- **1. way:** Go to **Menu** and select **Modify**. From the drop-down list, select **Erase**.

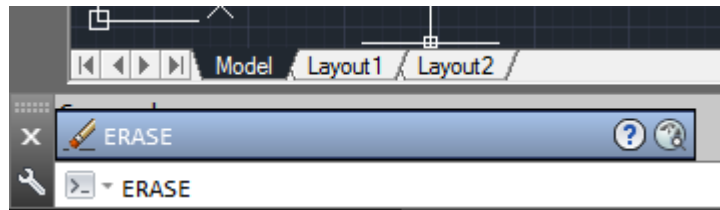


- **2. way:** Move the cursor over the **Modify Toolbar** and select **Erase** shortcut button.

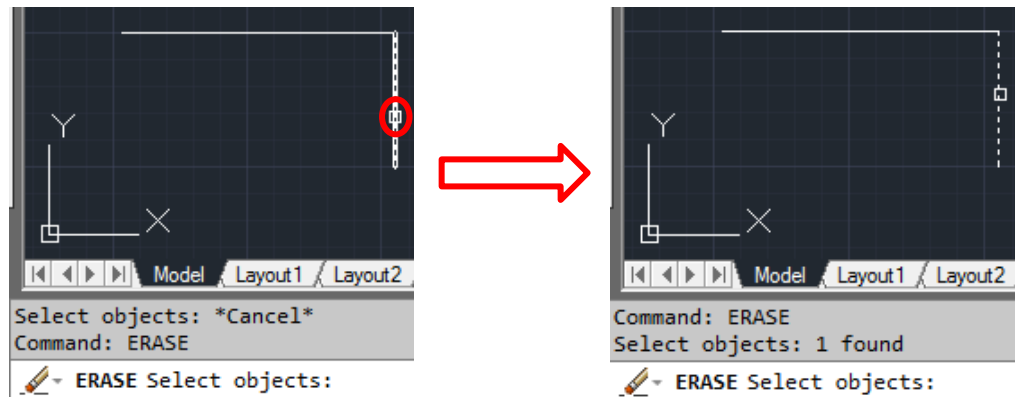


Erase

- **3. way:** Go to **Command line**, type **erase** and press **Enter**.



- Then, select (**click the object**) the object that is wanted to be removed.



Erase

- And, **right-click** the object selected to remove from the drawing area.

