# Program overview

Computer Aided Design \ (Auto CAD ) is one of the most powerful and widely used CADD(Computer Aided Drafting and Design) programs in the world, in terms of capabilities for various field of Engineering disciplines. This advantages in the program, is not limited to the speed of drawing and design, but also to the enormous modifications that made on the drawing and a wonderfully close-to-real output through 3D graphics and rendering technology.

Auto CAD also, provides the ability to import and export drawings and files from and to other programs in full compatibility, and AutoCAD allows more than one engineer to participate in the same project, each according to their majors, despite the spatial distance. In addition, and AutoCAD drawings can be easily published on the Internet easily and easily in various file extensions (DWG,DXF,DWF) etc.

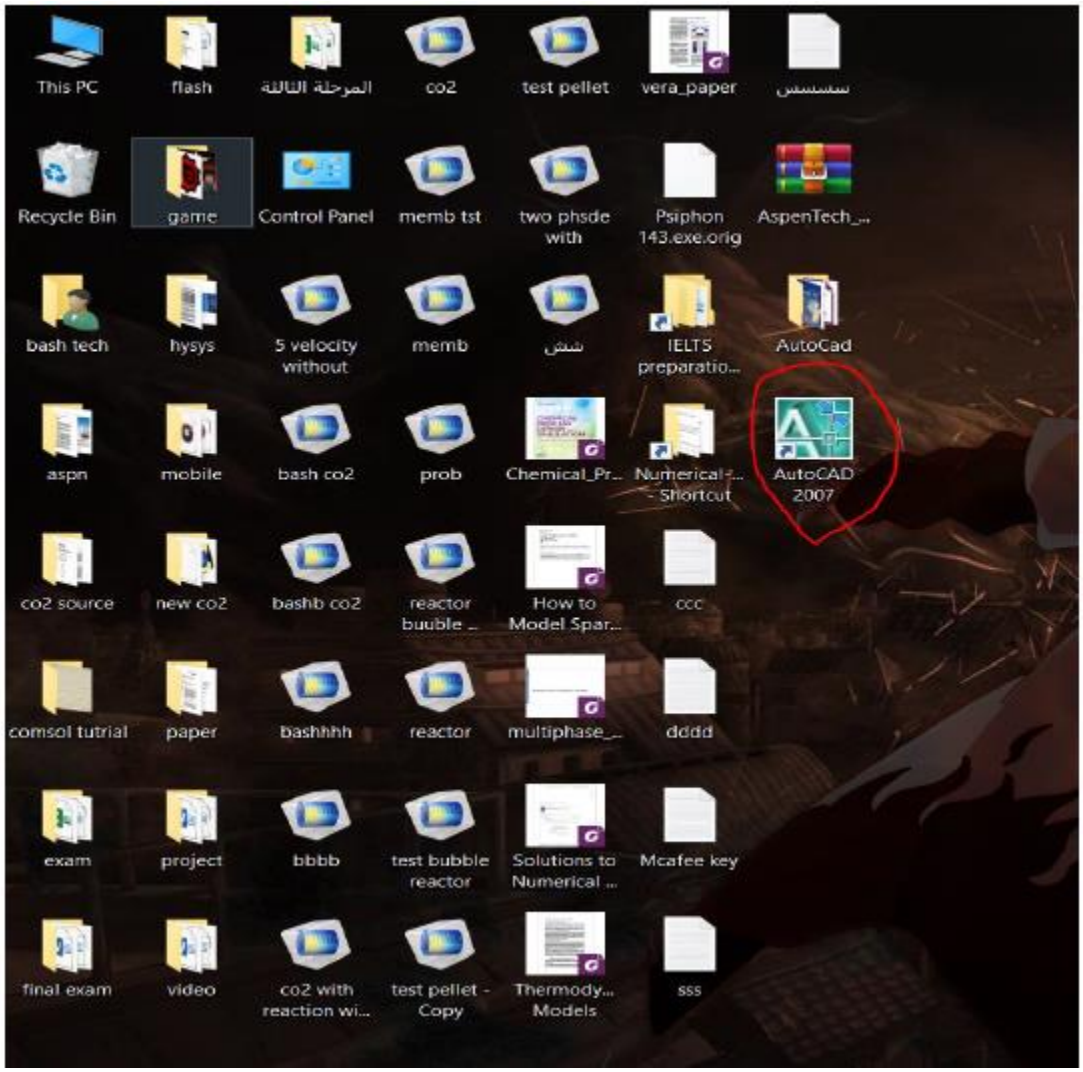
## Advantages of computer graphics

There is no doubt that, computer-assisted drawing is superior to the traditional drawing method in several aspects:-

| Drawing in the traditional way | Computer drawing |
|---|---|
| 1- It is require much space to produce graphics. | 1- It does not require much space to produce graphics. |
| 2-It needs many tools (table, papers, pens, .eraser, brush, inks, lighting etc.) | 2-It only needs a computer, printer and paper. |
| 3-it mostly needs more than one person | 3-Only one person produces graphics. |
| 4-The possibility of modification and addition is difficult and slow. | 4-The possibility of modification and addition is easy and fast. |
| 5-Producing graphics and designs takes a long time. | 5-The production of graphics and designs is fast and flexible. |
| 6-Waste (pens, inks, etc.) | 6-There is no loss, except for the printed papers. |
| 7-There is no database that can be used. | 7-There is a database of previous drawings and designs, which reduces the time for producing similar drawings. |
| 8-The design team must be present in one place to produce any design. | 8-The ability to share several designers in separate parts of the world through the web. |
| 9-The drawing scale must be determined before executing any drawing. | 9-Possibility of drawing in scale (1:1) and printing in the appropriate scale. |

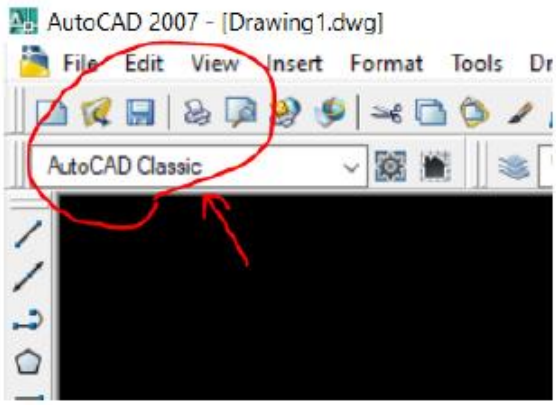
# Starting with Auto cad

After downloading the AutoCAD program to your computer, the next step you need to do is run the program. It is all worth mentioning here that the all versions of program, by default, create a shortcut icon for you on the desktop to provide you a quick access to the program by double-clicking the left mouse button on the shortcut Icons.



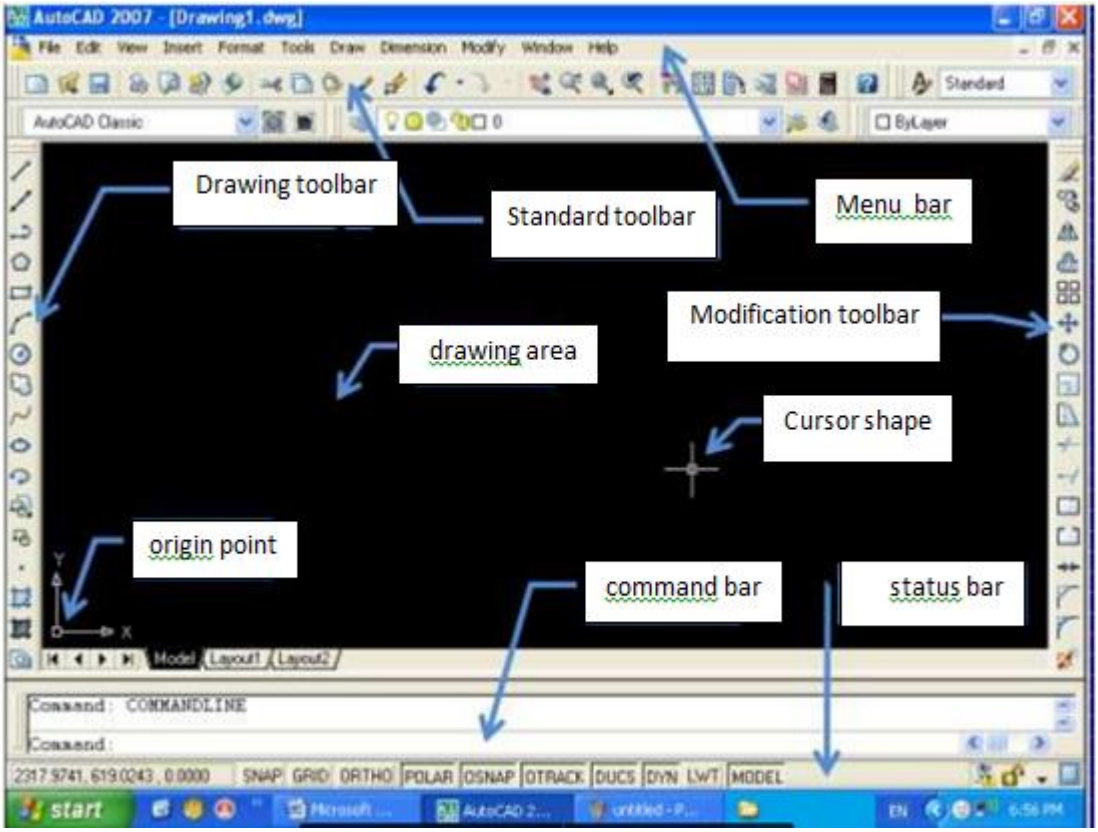
## The program interface

AutoCAD uses two types of interfaces, or interface bodies, which are pre-made and come with the program to determine how the bars and tools appear. You find these two options of interface in the Workspace bar as shown in the figure below




## AutoCAD interface

The AutoCAD interface consists of a group of the following main menus and bars:




### 1-Title bar:

This bar is located at the top of the interface It contains the name of the program, the name of the opened file, its title, and the logo of the program on the Left side of the bar. While the zoom in, zoom out icons, and closed is located on the right side.

## 2-Menu bar:

It is located below the tittle bar and contains menus with general functions of control and operation commands and settings (file, edit, display, insert, format, tools, drawing, dimensions, modification, frame, help, and additives etc.


## 3-Tool bars:

They are fly out toolbars, meaning we can move them to any location on the screen according to the convenience of the user, these bars provide Quick access to commands faster than the drop-down menus that need to be navigated .There are too many tools in the program, and we cannot show them all on the screen in order to preserve sufficient work space for drawing, and it is enough to show the frequently used toolbars, and the most important of these toolbars :

### Draw bar:

Contains drawing commands for most common shapes.


### Modify bar:

It contains commands for editing and modifying the drawing, such as Moving graphics, copying, trimming, cutting, joining and twisting... etc.

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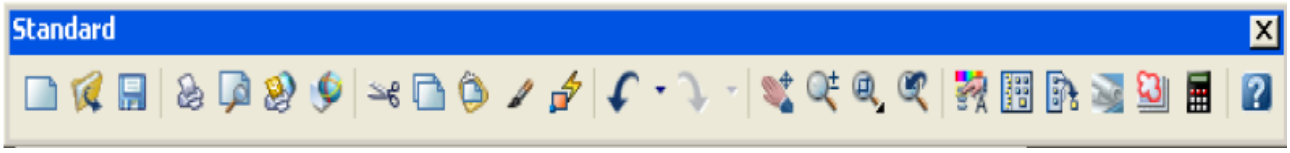
## Standard toolbar:

Contains most of the most used commands (format, open, saving, editing, and previewing files)




## Commands window:

It's a window located on the lower part of the interface and shows the user's commands to the program, the program's response and inputs required. They may appear in one or more lines as desired, and extra lines on the window will be at the expense of drawing window.


## Status bar:

It is located at the bottom of the interface and provided an immediate information about the coordinates of the cursor at that moment, and this toolbar contains Utilities that show the active and inactive ones. If the icons are dimmed It mean not active. While if it is in bold, it mean active. We can activate this tool by clicking on it and the message will appears on the command bar informs you that the tool is active (on) to make it inactive Clicking on it again, the program will tell you on the command bar that the tool is inactive (of )