Engineering Drawing with Autocad

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Lecture 1

Introduction to AutoCAD

- The computer-aided drafting program, AutoCAD, is the most common such program. It has many, many aids to drawing construction plans and detail drawings. If changes are later made in the design, it is quick and easy to change the drawing in AutoCAD.
- a considerable amount of time and money as compared to traditional prototyping, as well as facilitating communication and testing.
- **Drawing is the language of engineers**
- The AutoCAD or computer aided design machine has been a great help to engineers and also for several architectures that are finding it impossible to deal with drawings and plans of the project engineering work and the bring on the verge of perfection.

- **AutoCAD** is a software application for both 2D and 3D computer-aided design (CAD) and drafting — available since 1982 as a desktop application and since 2010 as a mobile web- and cloud-based app, currently marketed as Autocad 360.
- Developed and marketed by Autodesk, Inc., Autocad was first released in December 1982 — having been purchased a year prior in its original form by Autodesk founder John Walker. The software is currently marketed in its eighteenth generation.
- Here is a free software for student

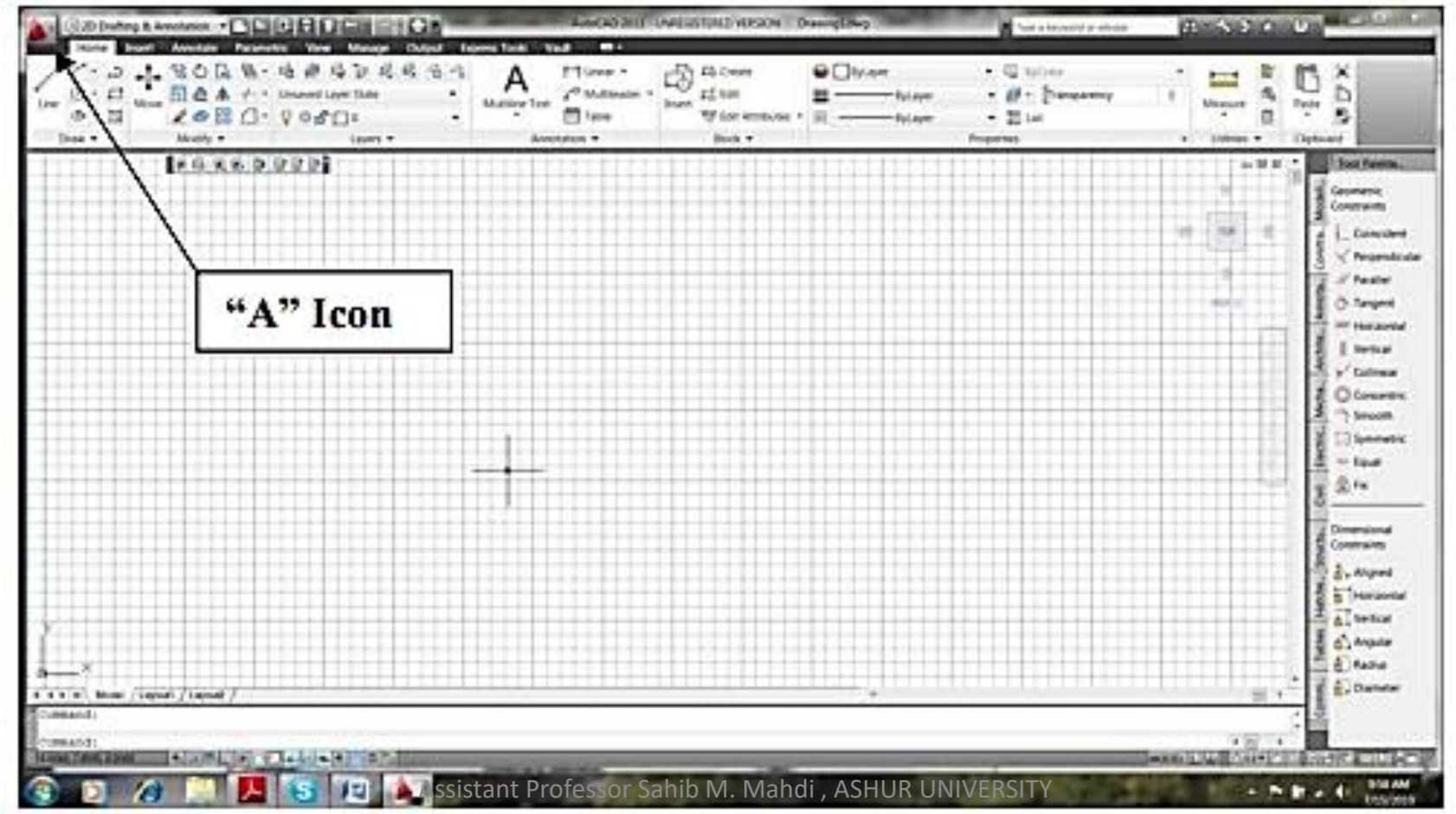
Type the url: https://www.autodesk.com/education/free-software/autocad The Autodesk page will be opened

If you press on the icon of run you will get this interface

What is the first step in starting AutoCAD from the Start menu?

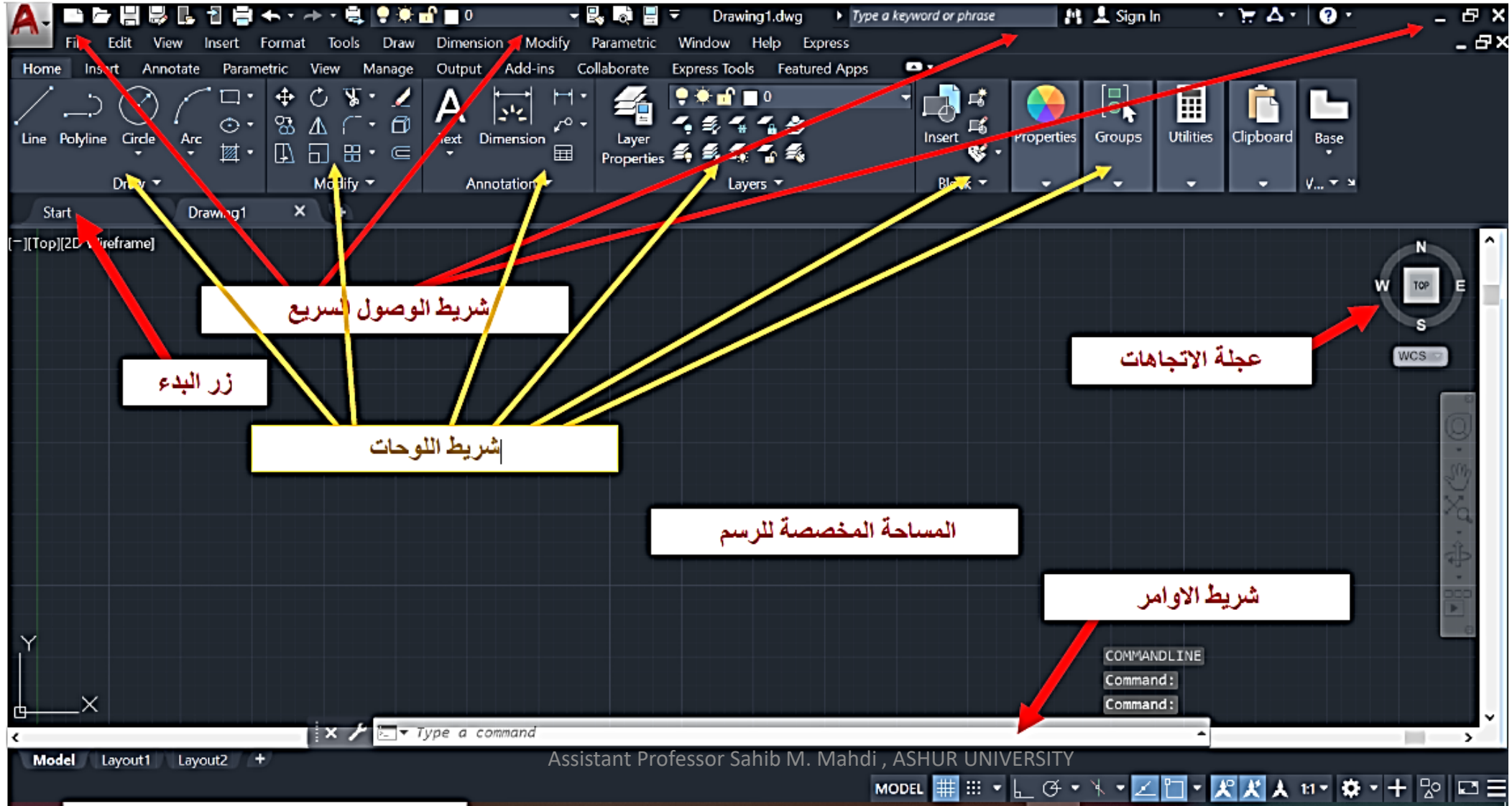
Starting AutoCAD

You can start AutoCAD by either double clicking on the program Icon on the desktop or by clicking on the program name in the Start menu. The program will start and after a minute or so should display a screen similar to the one shown below



Home page interface

The user interface provides all the tools you need to work on a drawing. Increase productivity and simplify your workflow by customizing the interface to support the way you work

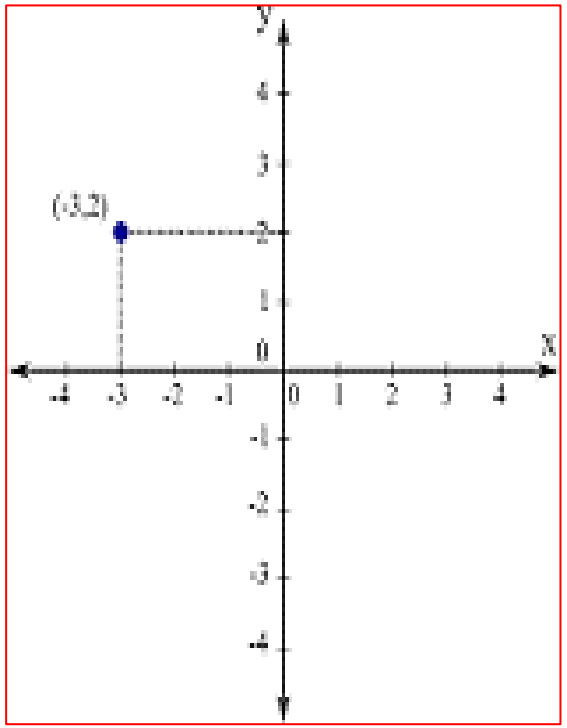


❖ How do you enter commands in AutoCAD?

Enter the command using one of the following options: In the Command prompt text box, type the full command name and press Enter or Spacebar. If automatic command completion is turned on, start typing the command. Press Enter when the correct command is highlighted in the command text area.

❖ What is Cartesian coordinates in AutoCAD?

A Cartesian coordinate system has three axes, X, Y, and Z. When you enter coordinate values, you indicate a point's distance and its direction (+ or -) along the X, Y, and Z axes relative to the coordinate system origin (0,0,0). In 2D, you specify points on the XY plane, also called the work plane



❖ How are points specified in the AutoCAD Cartesian workspace?

To use Cartesian coordinates to specify a point, enter an X value and a Y value separated by a comma. The X value is the positive or negative distance, in units, along the horizontal axis. The Y value is the positive or negative distance, in units, along the vertical axis

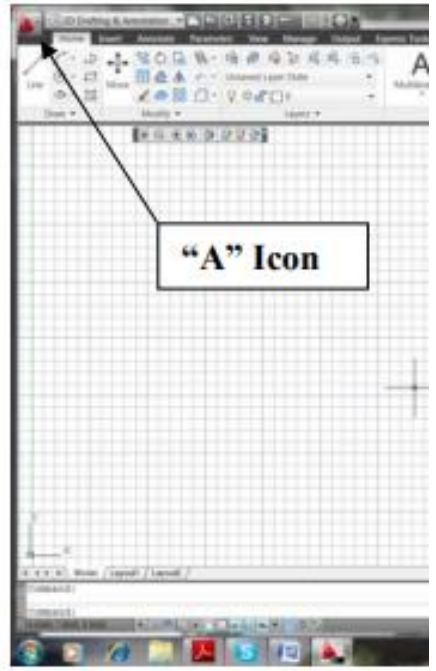
❖ What is the function of Cartesian coordinates system as used in CAD?

CAD coordinates

MicroStation and AutoCAD use 2D and 3D Cartesian coordinate systems that locate data at fixed coordinates. The x-, y-, and z-coordinates are not inherently geographic locations; they are locations relative to an arbitrary geometric origin (0,0,0)

Opening AutoCAD Drawing File (DXF/DWG)

1. Click [Import] - [Import DXF/DWG File]. [Open] dialog box will be displayed.
2. Select an AutoCAD drawing file, and click [Open] button. The file will be loaded.



What is the command that open an existing drawing?

Opening an Existing Drawing

Click Open on the Standard toolbar. Press Ctrl + O. Press Command + O. Type Open at the command prompt

If you are continuing work on a drawing, click on the "A" icon in the extreme upper left corner of the window and Open->Drawing. A "Select File" dialog box will open allowing you to select the drawing file you want to open.

How do I save a drawing file?

The Save As dialog window in AutoCAD allows selecting different drawing versions:

•Click the Save As button on the Quick Access Toolbar in AutoCAD or type SAVEAS on the command line. ...

•Choose the appropriate file format version from the Files of Type drop-down menu.

