LECTURE # 5

In this lecture you will learn about:

❖ Object Selection in AutoCAD

❖ Units in AutoCAD

Course Name:

"Computer Aided Building Modeling and Design"

Course Code: CT-355

Credit Hours: 1

Semester: Summer 2020

Prepared By: Engr. Muhammad Omair

OBJECT SELECTION

- Before you start to use your AutoCAD commands, you need to know something about selecting objects. All of the modify commands require that you make one or more object selections. AutoCAD has wide range of tools which are designed to help you select just the object you need.

1. SELECTING OBJECT BY PICKING

- Perhaps the most obvious way to select an object is simply to pick it. To select an object, place the pick-box over a part of the object and left click the mouse. When the object has been picked, it is highlighted in a dashed line to show that it is part of the current selection and the command line reports "1 found".
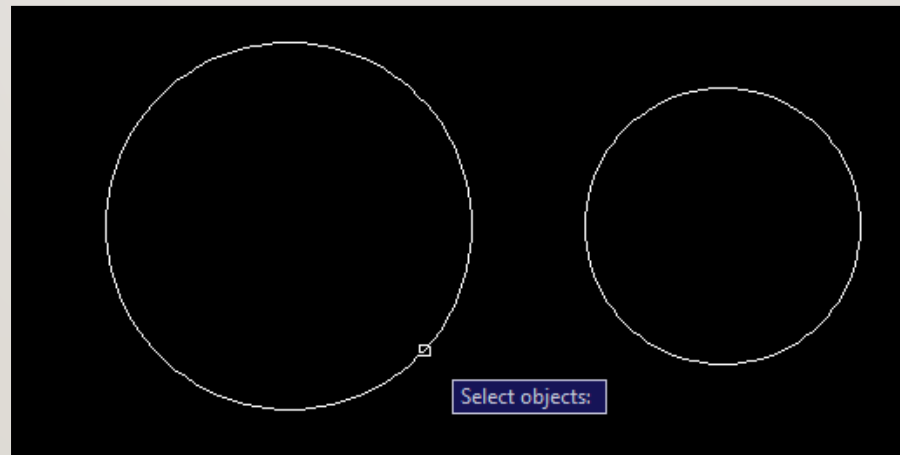
Select objects:

The Pick box

2. WINDOW SELECTION

- The window option is invoked by typing **W** in response to the "select objects" prompt. Window allows you to define a rectangle using two points in exactly the same way as the RECTANGLE command. Once all objects which lie within the window will be selected.
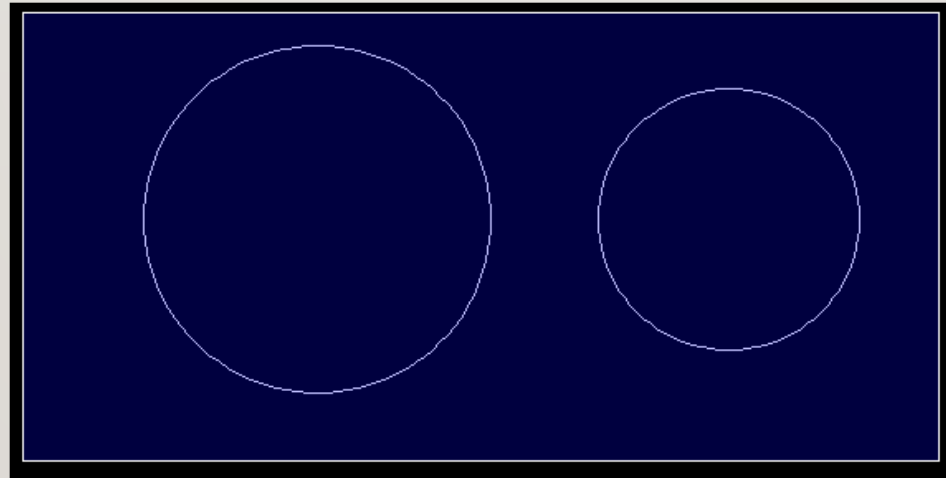
The Window selection box is shown as a rectangle with a solid line

3. CROSSING WINDOW SELECTION

- The crossing window option is invoked by typing **C** at the "Select objects" prompt and is variation of the Window command. The command sequence is exactly the same but objects are selected which lie within the window and those which cross the window border.
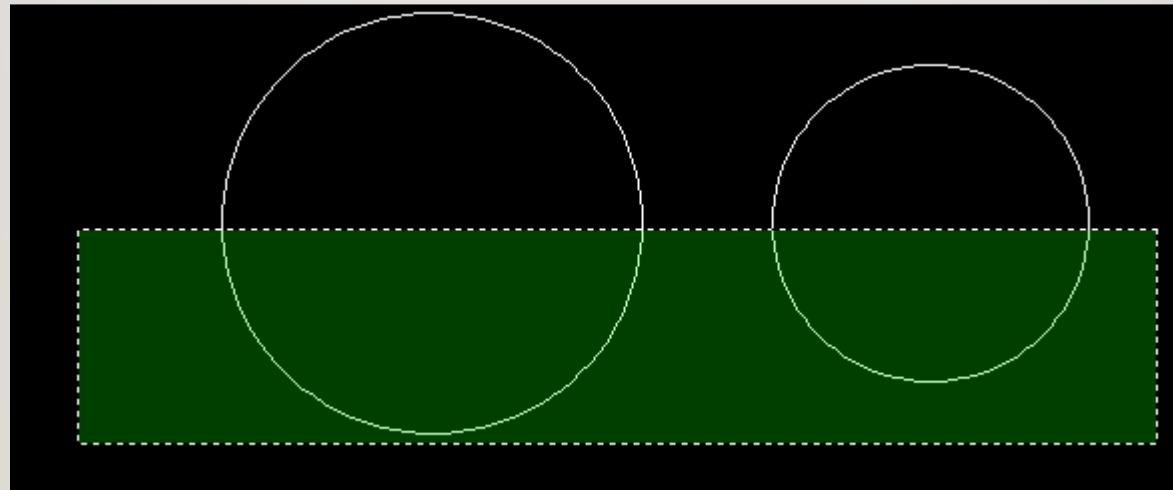
The Crossing Window selection box is shown as a rectangle with a broken line

4. SELECTING ALL OBJECT

- The All option is invoked by typing ALL at the "Select objects" prompt. You can use this option to select all the objects in the drawing, no picking is required. Objects on Locked or Frozen layers are not selected but objects on layers which are simply turned off are selected.

OBJECT SELECTION

5. Using Previous Selection

• AutoCAD always remembers the last selection set you defined. This is very useful because you may need to make a number of changes using different commands to the same group of objects. In order to reselect the last selection, you can use the previous selection. The previous option is invoked by typing **P** at the "Select objects" prompt.

6. Selecting the Last Object

• You can select the last object created by entering **L** at the "Select objects" prompt.
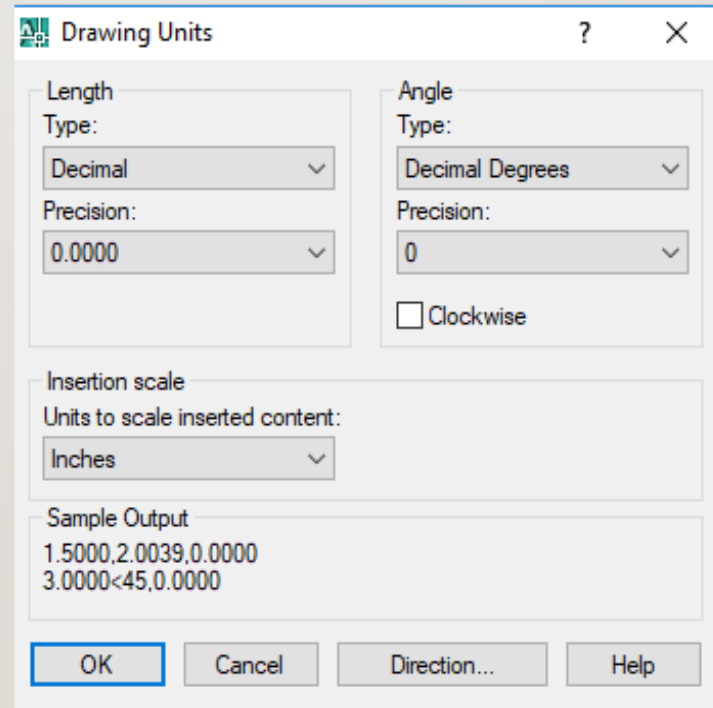
UNITS AND SCALES

Introduction:

- Among the most important concepts that newcomers to AutoCAD need to get to grips with are those of drawing scale and units. You cannot start crating sensible drawings with AutoCAD until you are familiar with scale, units and commands you use to control them.

UNITS CONTROL

- **Command line:** Type UN (units) and press Enter

- **Format menu:** Units

UNITS CONTROL

Toolbar: none

When you start the Units command, the first thing you see is the Drawing Units dialogue box. The dialogue box is divided into four main sections:

Length: You can see from the dialogue box that there are five different linear unit types for you to choose from, one of which is "Decimal", the default. The table shows the effect of the different unit settings on two drawing unit values to give you an idea how various settings must be used along with a brief description.

UNIT SETTING

Unit type	1.5 Drawing Units	1500 Drawing Units	Description
Decimal	1.5000	1500.0000	Metric or SI units
Scientific	1.5000E+00	1.5000E+03	Decimal value raised to a power
Engineering	0'-1.5000"	125'-0.0000"	Feet and decimal inches
Architectural	0'- 1 ½"	125'-0"	Feet and fractional inches
Fractional	1 ½ "	1500	Whole numbers and fractions

The effect of different unit settings on two drawing unit values with description

UNIT SETTING

- Notice that when you change the unit type, the co-ordinate display on the status bar changes to show co-ordinates using the current unit type. Units such as "Architectural" and "Engineering" are mainly for AutoCAD users where Feet and inches are still in common use.
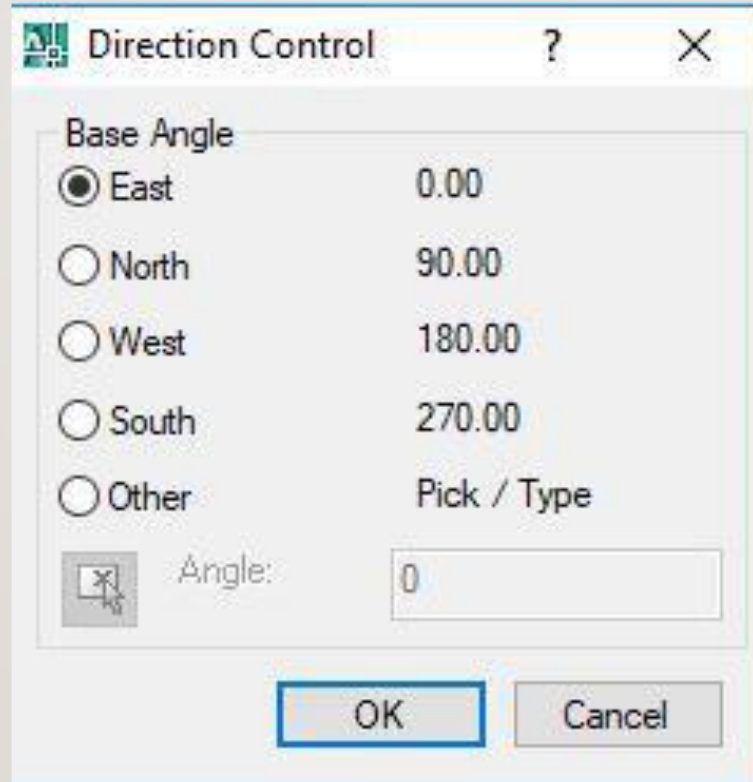
ANGLES

- Looking at the Drawing Units dialogue box again, you will notice that there are also five angular unit types. The default is decimal degrees, but there are other options. The table below shows the effect of the different unit types on two angular unit values.

ANGLES

Unit type	12.5 Angular units	180 Angular Units	Description
Decimal Degrees	12.500	180.000	Metric units
Deg/Min/Sec	12d30'0"	180d0'0"	Degrees, Minutes and Seconds
Grads	13.889g	200.000g	400 grads=360 degrees
Radians	.218r	3.142r	2 Pi radians= 360 degrees
surveyor	N77d30'0"E	W	Compass bearings

DIRECTION CONTROL

DIRECTION CONTROL

- AutoCAD also allows you to control the direction in which angular units are measured and the position of the start angle. AutoCAD starts with the zero angle at the 3 o'clock position (East) with angles increasing in an anti-clockwise direction. This case may be changed for other modes.

THANK YOU

Prepared By: Engr. Muhammad Omair