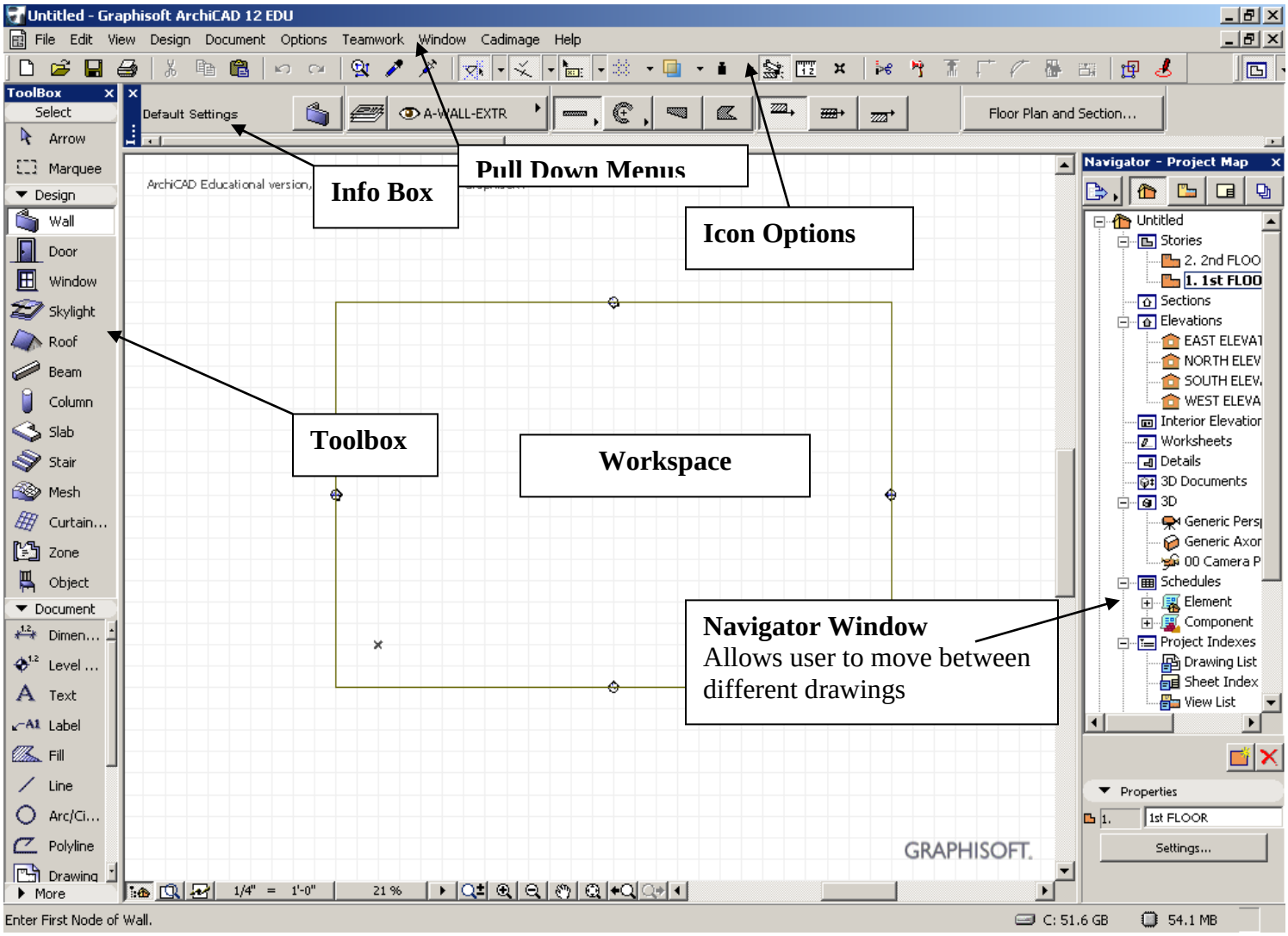
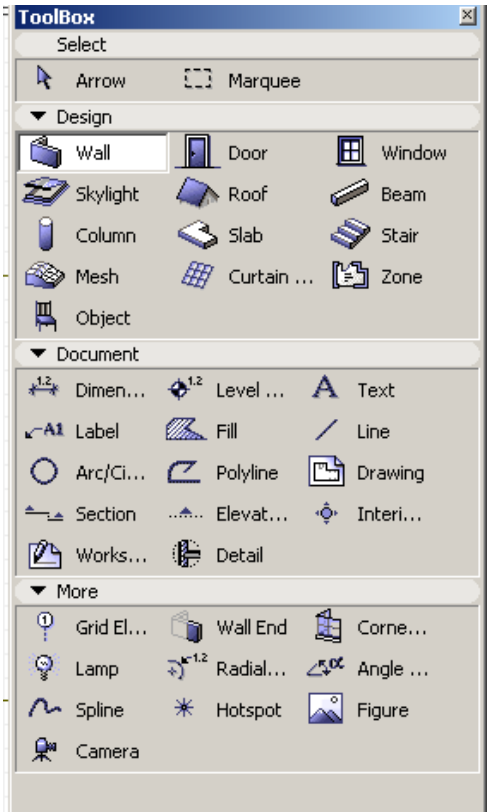
ARCHICAD Introduction Tutorial
Floor Plan



Introduction
Menus



TOOLBOX

Info Box: Provides information and properties of each tool when selected. This feature allows the user to adjust many different properties of a new entity or existing entity depending on the tool that is selected.

Starting a New Project

Load **Archicad 17 Icon** from the desktop
Click on the Warning/Information (Grey Box) box when it appears on the screen
When creating a new project click on **Create a New Project** dot and click **OK**
To load a preexisting document click on Browse for Project and locate the desired file

Note: each new project will create two files in the directory. One is the main file extension .pln and a backup file .bpe. Both of these files must remain together at all times.
If separated the neither file will be able to open in the program.

Step 1: Setting the scale

It is important to set one's drawing scale. In the area of architectural drafting there are two standard drawing scales that are used when creating a floor plan.

Residential: ¼"=1'0"
Commercial 1/8"= 1'-0"

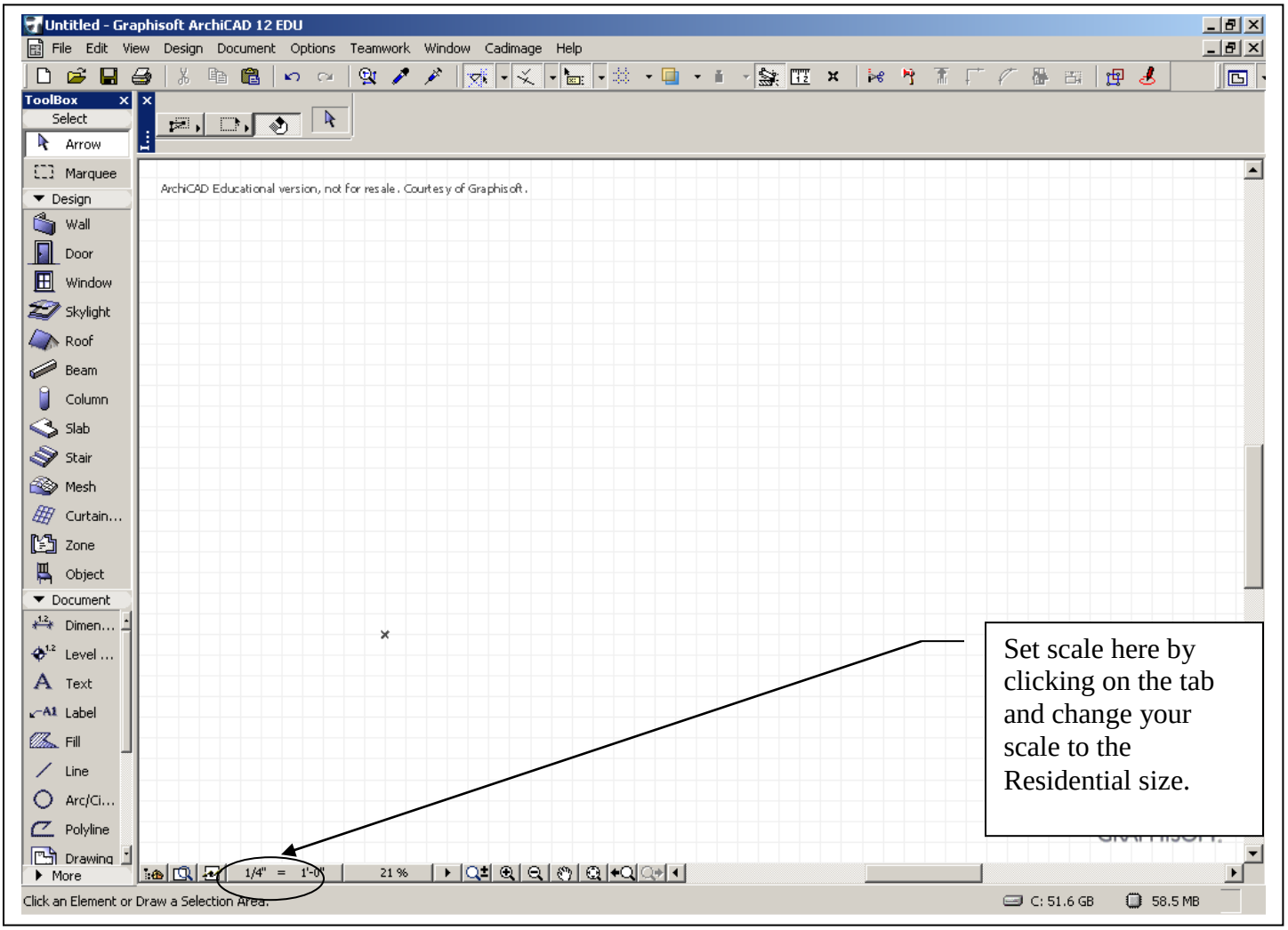
To set the scale of your drawing sampling click on the scale indicator at the bottom of the Archicad window and select the desired scale.

See Sample Workspace Below

Step 2: Setting up the Workspace

Using the **Arrow Tool from the Toolbox >** select the four lines on the workspace. May click one at a time or hold shift key to select multiple
Hit the **Delete Key**
Click on **Delete Viewpoint**
Click on **Delete Anyway**

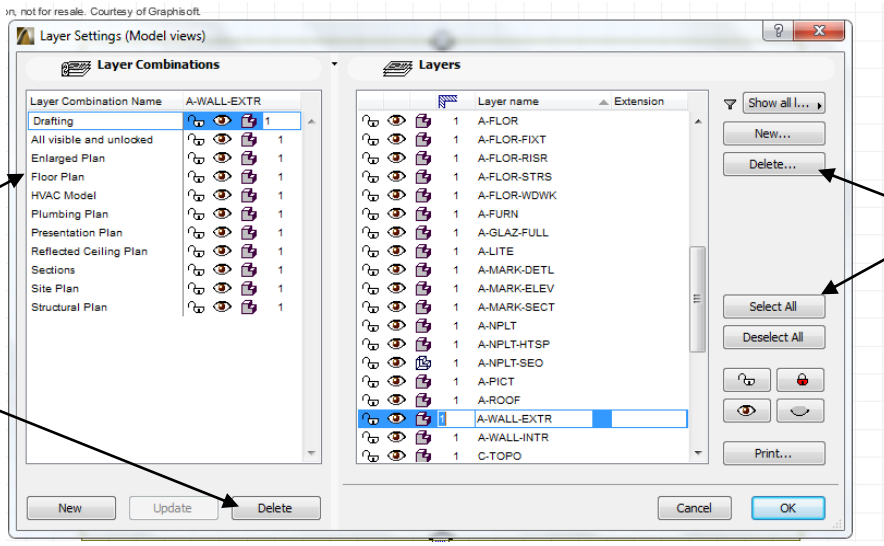
Workspace should look like the following



Step 3: Layer Settings

A. Layer settings allow the user to add features (example doors, walls, windows, cabinets, etc) to a specific layer. This will allow the user to turn on and off these layers, essentially hiding them from the screen. This is done to help the user keep the screen clean and orderly, as well to create different types of drawings with different information.
Document > Layers > Layer Settings or CTRL-L (Hotkey)

The following menu will appear. In this menu are the default Layer Combinations and Individual Layers.
Delete all Layer Combinations and Layers



Each Layer combination will have to be clicked individually to delete.

Step 1: Select all will select all of the individual layers.
Step 2: Then the delete button will highlight and click on it to delete To delete all the layers.
NOTE: Archicad Layer will not delete. We will keep this as a default layer if needed

B. Set the following **Layer Combinations**
Layer Combinations- Group together individual layers to adjust from one drawing to the next (example Floor Plan Drawing, Foundation Plan, Roof Plan, etc).

Once all of the Layer Combinations and Layers have been deleted Select **NEW** on the Layer Combination side and create the following **Layer Combinations**

a. Floor Plan
b. Foundation Plan
c. Exterior Elevations

C. Next you will create individual layers. To have the layers attach themselves to a specific **Layer Combination** one must have the desired **Layer Combination** and the Eyeball is selected. Once the Layer Combinations have been created select the **Floor Plan Layer Combination** by Left clicking on it.

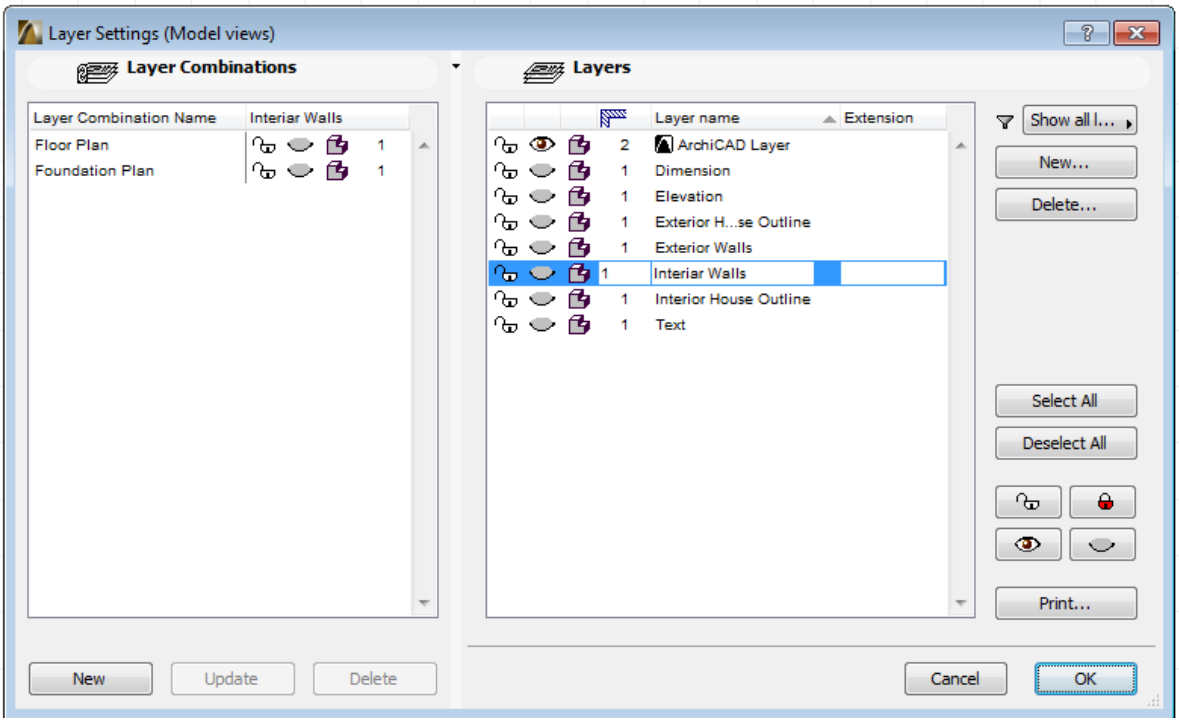
Once selected on the Individual Layer side of the menu select **NEW** and create the following layers

a. Exterior House Outline
b. Interior House Outline
c. Exterior Walls
d. Interior Walls
e. Text
f. Dimensions
g. Exterior Elevations

Click **Update** on the Layer Combination side of the screen to attach the desired Layers to **Floor Plan Layer Combination**

Note: Through out this course you will be accessing this menu to add and delete different layers. Take a minute to examine the rest of window.

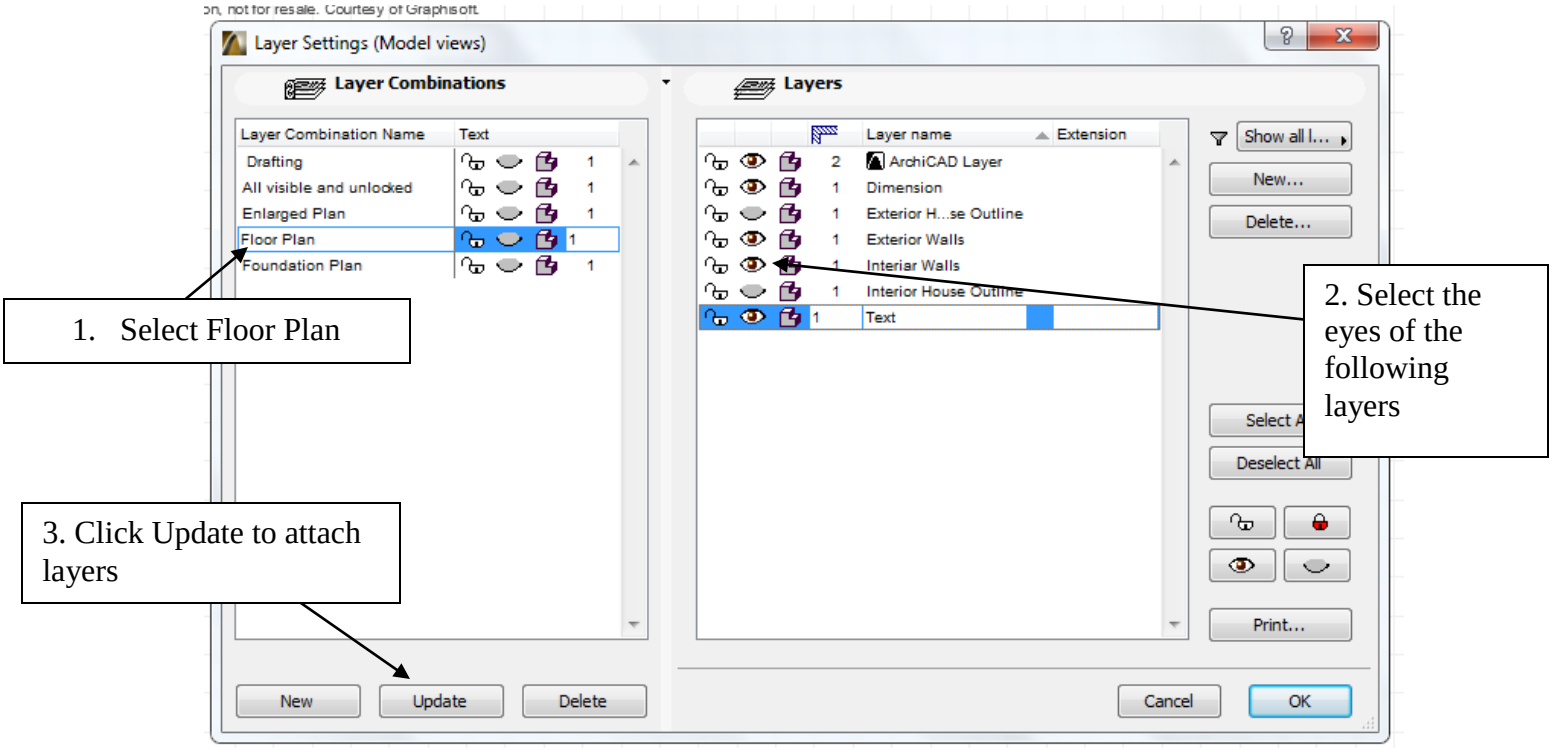
Final Layer settings should look like the following



D. Layer Combination

1. Select the Floor Plan Layer combination (note that there are no layers attached to this combination because none of the eye are turned on.)
2. Select the Eyes next to the following layers
    a. Dimension
    b. Exterior Walls
    c. Interior Walls
    d. Text
3. Select the **Update** button on the Layer Combination to attach the layers to the layer combination

See Screen shots below.



Click **OK** to exit the window

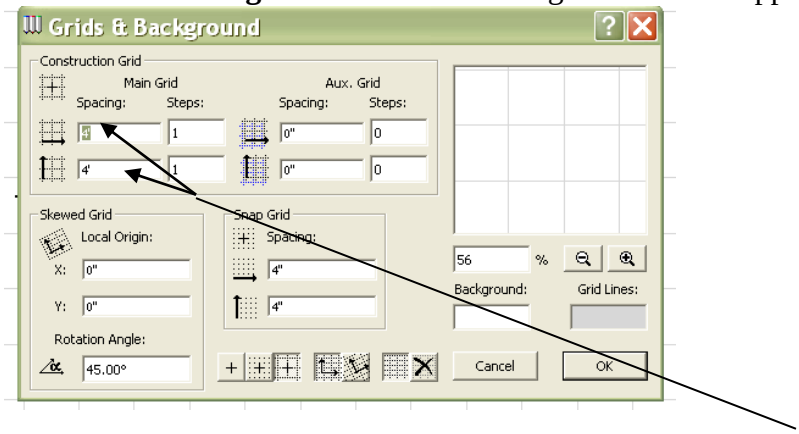
Select Delete Anyway

Step 3: Drawing House Outline

A. Setup the Grid

When using Archicad to draw a floor plan there will be a grid in the background of the workspace that is predefined. When setting up a drawing you may adjust the grid to whatever sizes you want. The Default sizes for the grid is 4'-0" x 4'-0" for each square space. It is helpful to redefine the grid based on what type of work drawing is being worked on.

To redefine the grid space you need to go to the drop down menu **View > Grid and Editing Plane Options > Grids and Backgrounds**. The following window will appear.



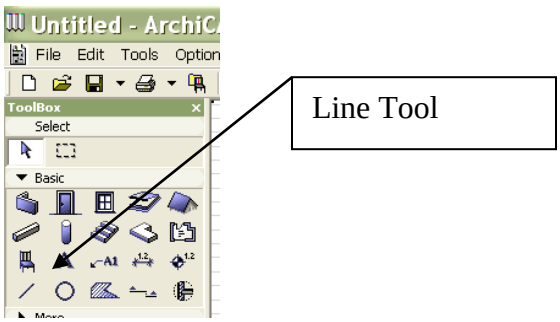
Readjust the grid to be 1'-0" x 1'-0" by changing each value in the **Construction Grid > Main Grid > Spacing**.

Click **Ok** to exit

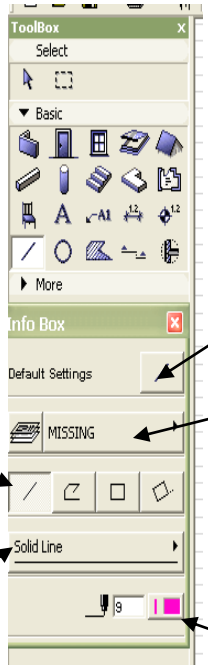
B. Using the Line Tool

In the tool box there are many different tools that will perform different functions in this program the first tool we will use is the Line Tool to draw the interior and exterior outlines of our house.

Select the **Line Tool** from the **Toolbox Menu**



Once the **Line Tool** is selected there property options will appear in the **Info Box**



Enters the Properties menu of the tool

Adjust how the lines will be drawn:
Single Line
Polyline
Rectangular
Angular Rectangular

Adjusts the Layer of the line.
Adjust to **EXTERIOR HOUSE OUTLINE**

Adjust type of line type

Adjusts the color of the line.
Click on the color to open a palette of colors
Or
Input a number that references a specific color.

Enter Color Number 7

Once the settings are set you may begin drawing on the grid workspace. Place the cursor on the grid. You will notice that the cursor does not **snap** to each grid space.
Select ALT-S this will turn the snap on. This allows for even measurements or the size of each grid. To turn on and off **SNAP** just hit **ALT-S**.

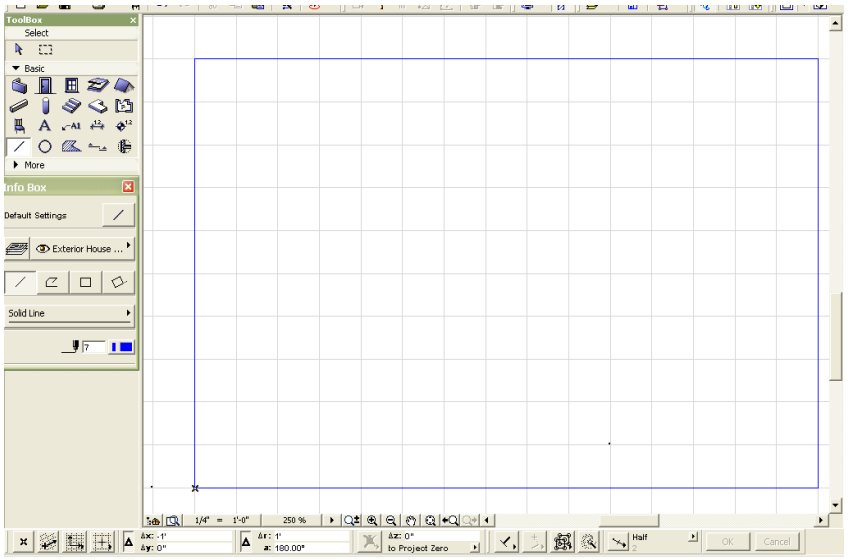
With the **SNAP** turned on begin by place your cursor on the origin. The origin will appear as a black X on your grid sheet. Once the cursor is on the origin a **black check** will appear.

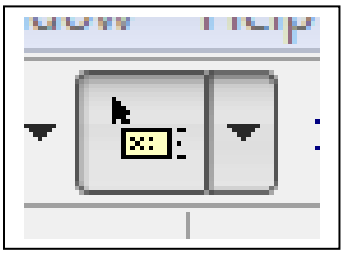
The cursor should snap to this spot. **Left Click** once with your left mouse key on the origin. Note an error message will appear asking if you want to turn the layer on since we left it hidden. Select **Show Layer** and drag the mouse to the left. To make the line go straight hold down the **Shift Key**

To get the desired length there is one of two ways to set a line length.

1. Count the number squares you wish to have. Since each square is a foot then the total number of squares will equal the total number of feet your wall will be.
2. Or simply type your value feet and inches. Be sure to use the hyphen ‘ feet and quotes for inches “
    a. I.E. 1’6”

Create a rectangular box with the following size: Horizontal 15'-0" x Vertical 10'-0". The screen should look like the following. Choose either method to create your box. If the Tracker is not for distance is not showing, click on the following icon (located on the top of the screen to turn the tracker on)

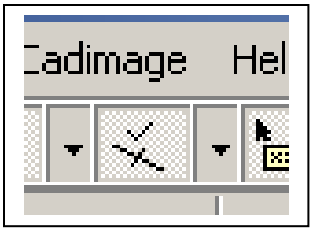




Step 4: Interior Walls

A. Select the Line tool and set the following settings
   a. Layer- Interior House Outline
   b. Color- 10

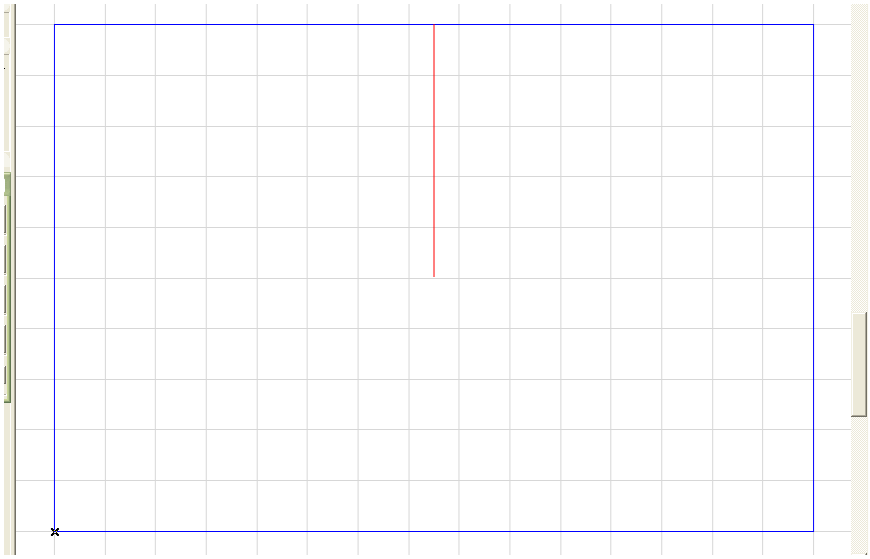
B. Next you will set the Line Division Icon. Tool can be found on the top menu bar of the screen. There is an arrowhead pointing downward to change settings. You can also access this tool from the pull down menu **View > Special Snap Options.** This tool will allow the user to divide up a line in four different ways by showing hash marks on the feature. This feature only works with the **Snap** turned off. (Hotkey-ALT-S)
   a. Half- Cuts any line or wall in half
   b. Divisions- Divides the line up in predefined sections
   c. Percent- Divide the feature into equal percents
   d. Distance- Divides the feature into user inputted distances



Snap Options Icon

C. Select the **Divisions** bar
   a. Click on **Divisions**
   b. Click on Set **Special Snap Values**…
   c. Input 4 for the number of divisions
   d. Be sure the snap is turned off **ALT-S**
   e. Place your cursor on the top line of the rectangle
   f. 3 hash marks will appear. The number of divisions determines the number of hash marks. The line will be divided up in four sections with three hash marks.
   g. Place your cursor on the middle hash mark. A **Check Mark** should appear. This means you have located that specific point. **Left Click** once on this mark. Error message will appear click on the show layer
   h. Drag the mouse cursor downward below the blue start line > line up the line with the reference line to make vertical.
   i. Input a number of **5'-0".** Then hit **Enter**.

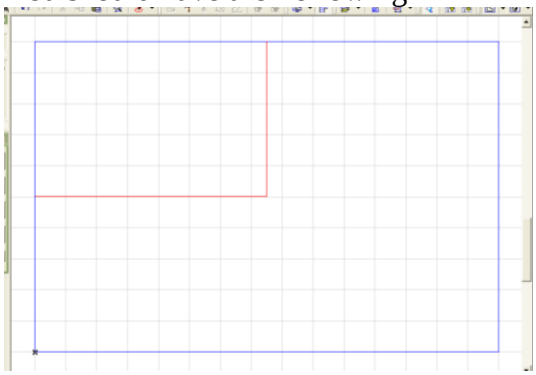
You should have the follow on the screen



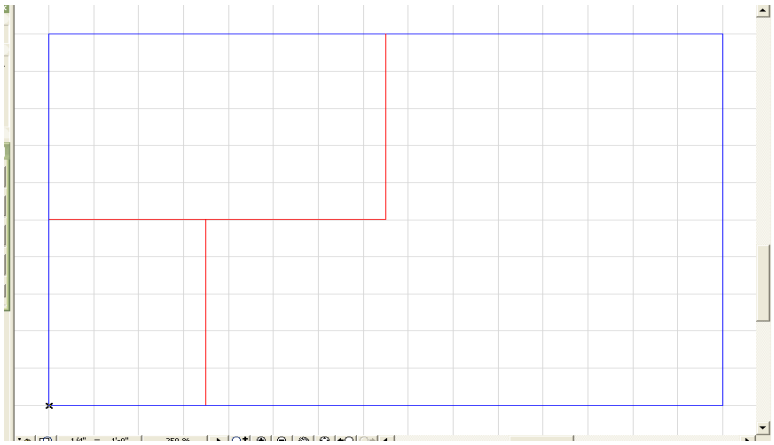
D. Next place your cursor at the end of the red line. **Left Click** once on this point.
Note: Look for the **Check Mark** to indicate the end point.

E. Drag your cursor to the left**.** When you reach the Blue Line on the left of the rectangle the Pencil should turn Black. This will indicate you have reached the Perpendicular of that line. **Left Click** once at this point.

You should have the Following



F. We will add one more wall to complete the **Interior House Outline**
On the Divisions Menu Change the type of divider from **Divisions** to **Distance**
For a distance enter **3'-6" (Adjust Special Snap Values like above)**
Place your cursor on the Left hand side Horizontal Red Line. This line will be divided into increments of 3-6".
Note: Depending on where the cursor is placed relative to the center of the line will determine in what direction the divisions of the distance will start from.
Select the First Hash mark. Note: Look for the Check Mark
Draw a Vertical Line that will be perpendicular to the bottom horizontal blue line of the rectangle.
You should have the following on your screen



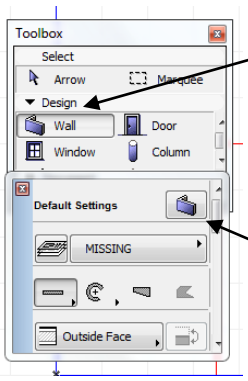
Save Now

Save your Drawing as Tutorial

Step 5: Exterior Walls

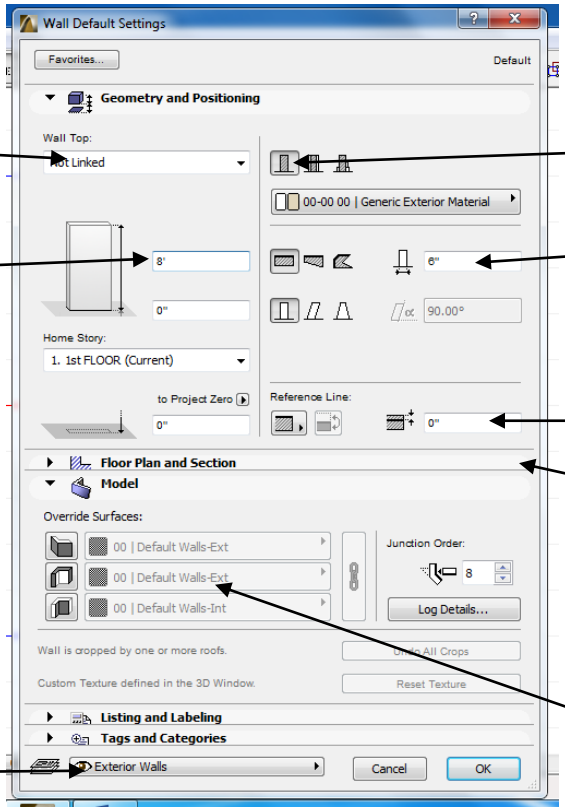
A. Select the **Wall Tool** from the **Toolbox**.
B. Select the **Tools Info Box** in the **Info Box**

The following window will appear



Wall Tool

Tools Info Box
Located at the top
of the screen



Change to NOT LINKED

Wall Types
1. Structure Basic (Change to)
2. Composite
3. Complex

Height of Wall
Change to 8'0"

Wall Thickness:
Change to 6"

Wall Offset

Floor Plan and Section: Allows user to alter line type.

Layer: Exterior Wall

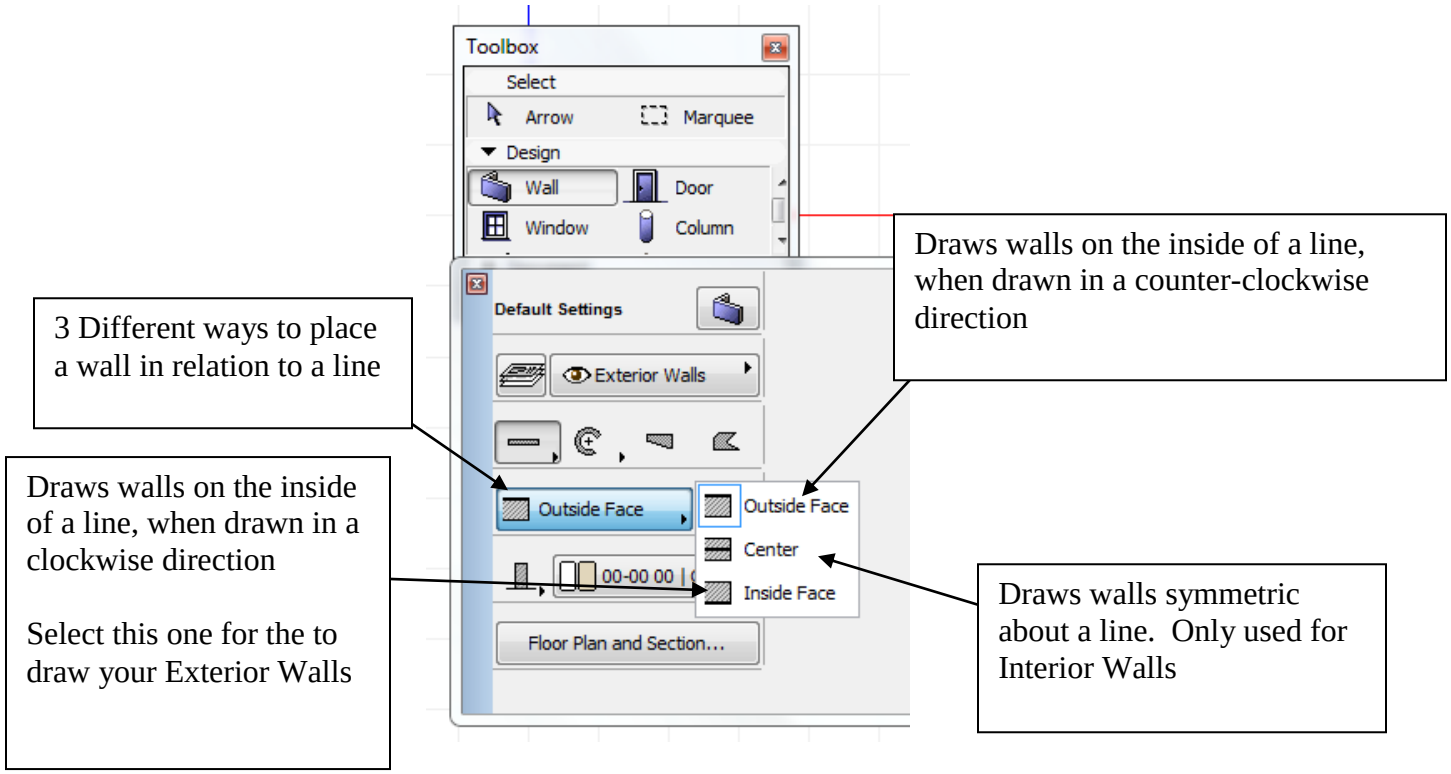
3D Model Colors
Use Default
Click on first icon
Select Material W Siding – 6" H

Change the values

1. Wall Top = Not Linked
2. Height of Wall = 8'0"
3. Wall Type = Structure Basic
4. Model > Override Surfaces > Select first wall (shows outside of walls) > Select Material W Siding–6" H
5. Placing wall Outside Face
6. Layer = Exterior Wall

Click **Ok**.

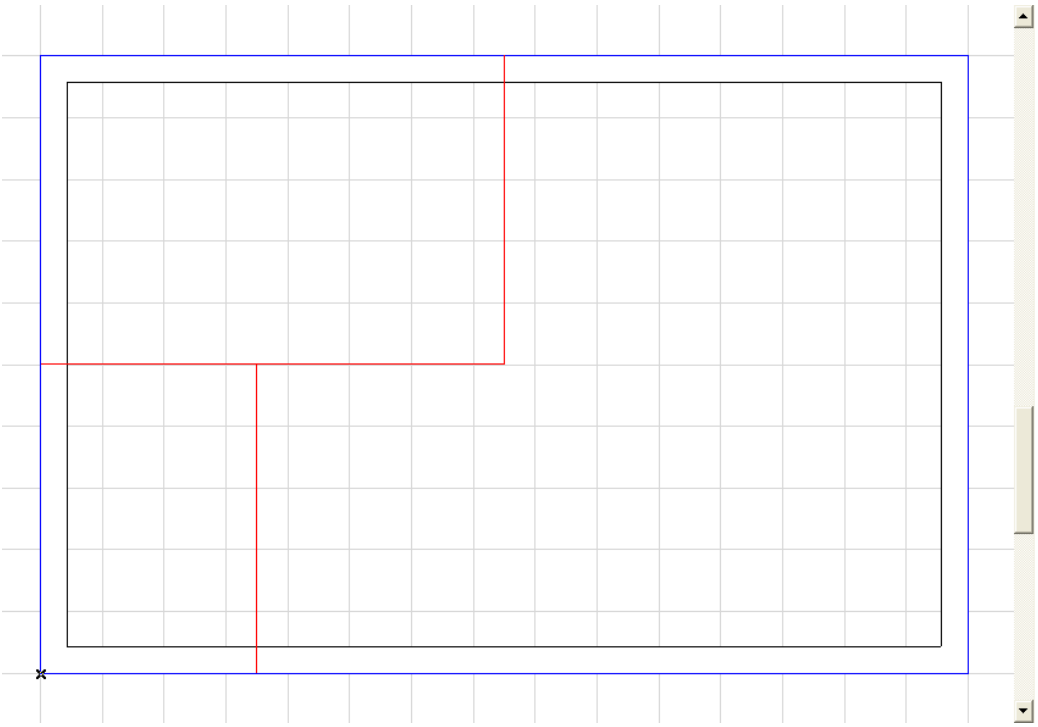
C. When drawing a wall there is three ways to draw it. The following Icons will define each



Note: All Exterior Walls must fall on the inside of Exterior House Outline.

D. Draw the exterior walls by starting at the origin Left Click once (Notice the Check Mark) then drag the cursor to the right end of the Exterior House Outline. Continue moving the cursor around the Exterior House Outline.

You should have the Following



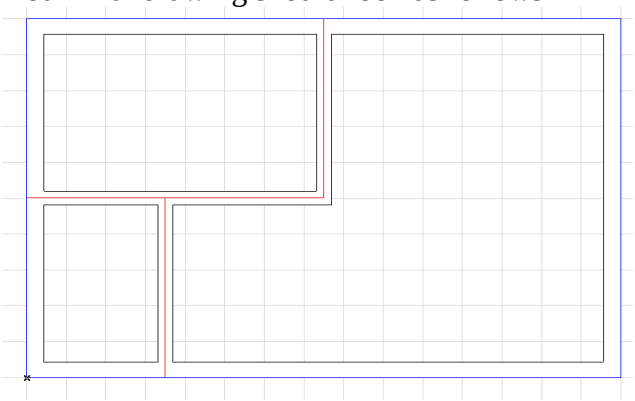
Save Now

Step 6: Interior Walls

A. Set your values has follows in the Tool Info Box

1. Wall Height 8’0”
2. Wall Thickness 6”
3. Model > Override Surfaces > First option change material to Default Walls Ext
4. Click **Ok**

Be sure you have the wall drawing tool that has the walls drawn symmetric about the line selected. See above for the correct icon
Begin drawing your walls.
Your final drawing should look as follows



Step 7: Doors

The final step of this tutorial is to insert doors and windows. Although will not go in depth on the types of doors and windows in this tutorial we will insert some basic types and simple features.

A. Select the **Door** Icon from the **Tool Box**. 

Then select the **Door Default Settings** Box from the **Info Box**
Choose **Wood Internal Door** from **Library**
Choose Thumbnail **D1 17**

B. Set the following settings under the **Preview and Positioning** and the **Parameters Tab**
Door Width- 2’6”
Door Height- 6’8”

Change these two settings after adjusting the Wall hole to Nominal Size

Hinge Side= Right Side
Door Sizes

a. Wallhole to Nominal Size = ON

Casing Outside= OFF
Casing Inside = OFF
Door Frame

a. Frame Style: Style 1

Door Panel

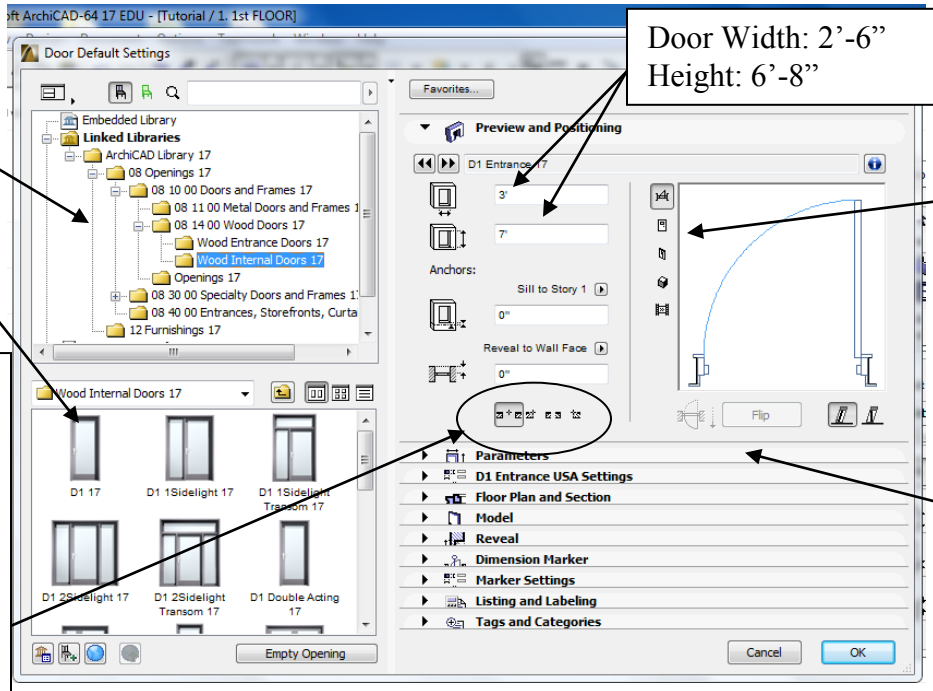
a. Leaf Thickness: 1 3/8”
b. Opening Handle: Style 1

2D Representation

a. 2D Detail Level: Simple

3D Representation- No Change
Materials- No Change
Dimension Marker Tab

No Marker



Libraries

Door Thumbnails

Anchor Point
Position of the door in relation to the wall:

1. **Center of door**
2. **Hinge on the Left Side**
3. **Hinge on the Right Side**

Door Width: 2'-6"
Height: 6'-8"

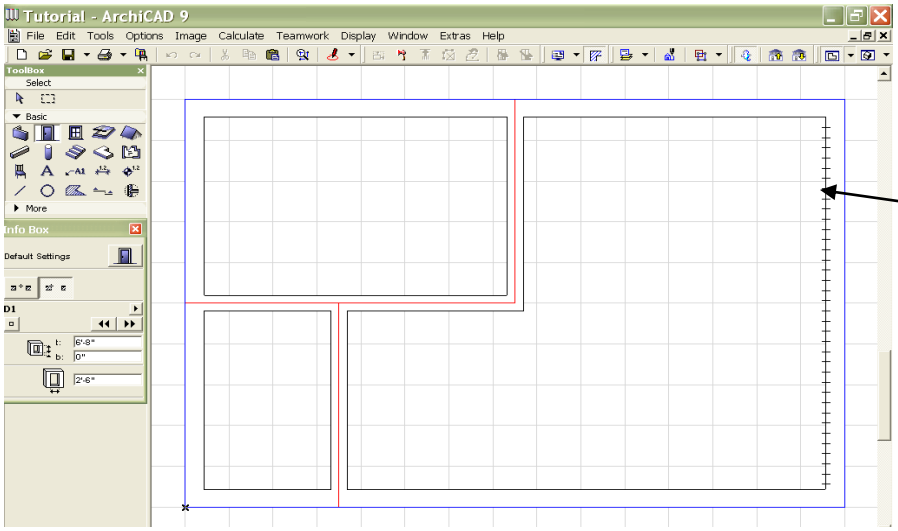
Door Previews I.E Floor Plan, Elevation, Render etc.

Door Properties

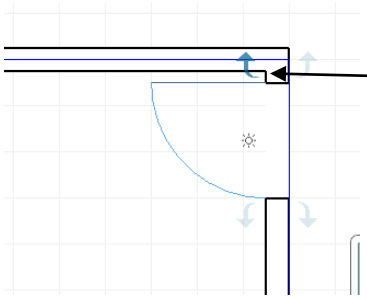
Optional: Adjust style of door or add handles by going to D1 Entrance USA Settings > Door Panel
Click **Ok** once finished

C. Set the Line Division Menu to Distance
Set the Distance to 3". Doors should be no closer than 3" from a wall.

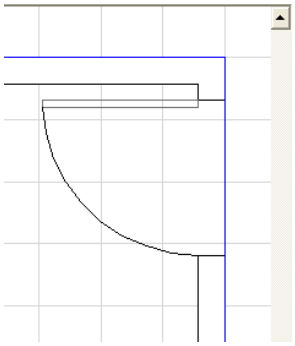
Place your cursor on the inside of the wall has seen in the example and finds the first hash mark with the check.
Left Click once



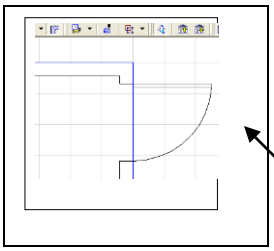
1. Place Cursor on the interior of the wall. Hash marks will start from the nearest endpoint based on the cursor
2. Hash Marks intervals of 3"



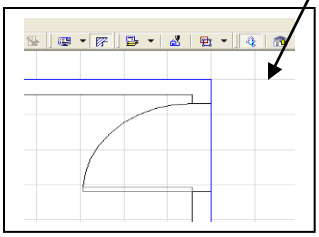
A gap will appear > Place cursor on the arrow that shows the direction of the swing on the door > Left Click to Place



Correct



Incorrect



Note:

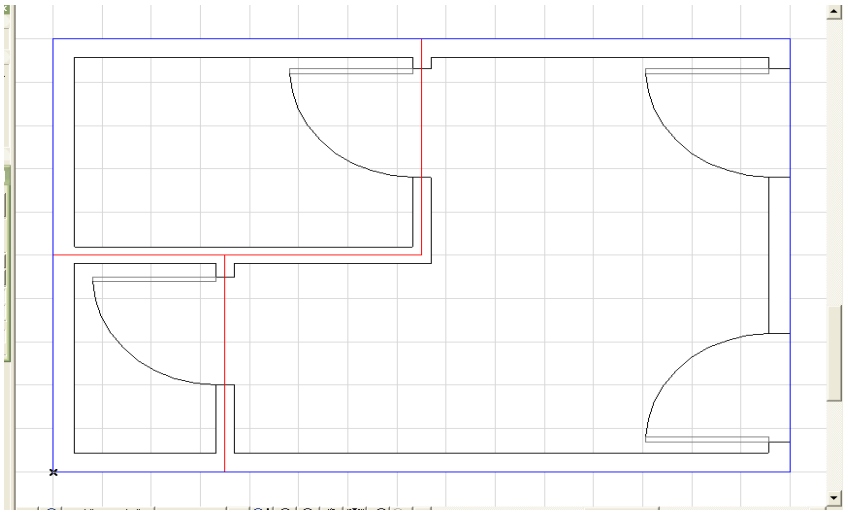
a. Doors should be 3 Inches from any wall

b. Doors should always swing towards a wall, never open into open space.

c. Doors should open into the room a person is walking into.

Why do you suppose this is?

D. Place the following doors on your floor. Note: all the settings w
SIDE. Be sure to adjust anchor point for the various doors



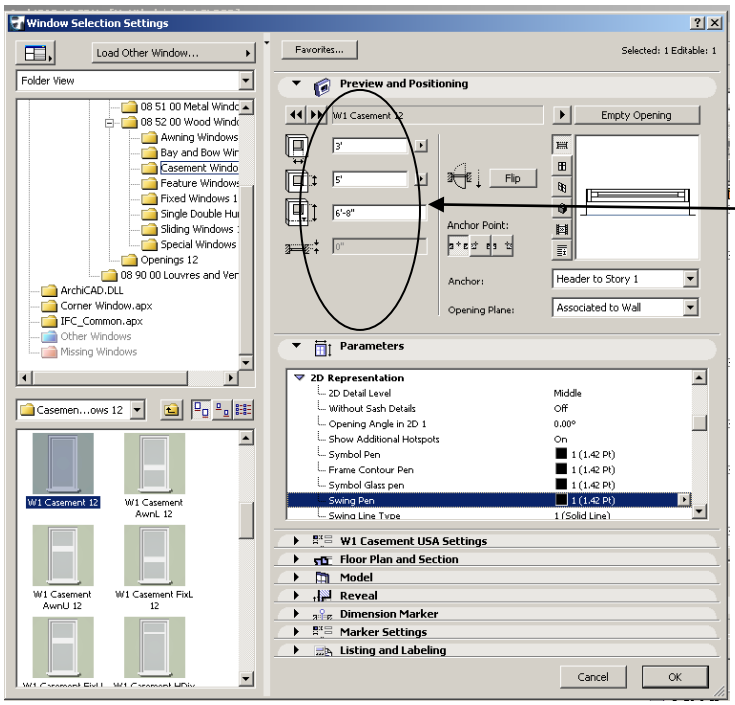
Save Tutorial

Step 8: Windows

Windows are a functional part of any house design. Their function is one of utility and of design style. Windows basic function is for ventilation and to bring in light to a house. There are many styles of windows that all have their own function and uses within a household design.

The window tool operates much like the door tool. The only difference is how the window is placed in the drawing

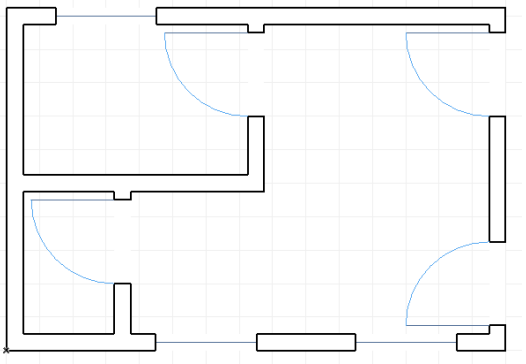
A. Select the **window tool** from the **Toolbox**
B. Then select the Window **Tools Settings Dialog Box**.
C. Set the following settings in the **Tools Settings Dialog Box**
D. Choose Wood **Window > Casement Window**
E. Choose Thumbnail **W1 Casement 17**
F. **Casing Inside/Outside = Off**
G. **2D Representation:**
   2D Detail Level: Simple
   Keep all Colors Default



Window Sizes
-Width 3'0"
- Height of window: 5'0"
- Dimension from Floor to Top of Window 6'8"

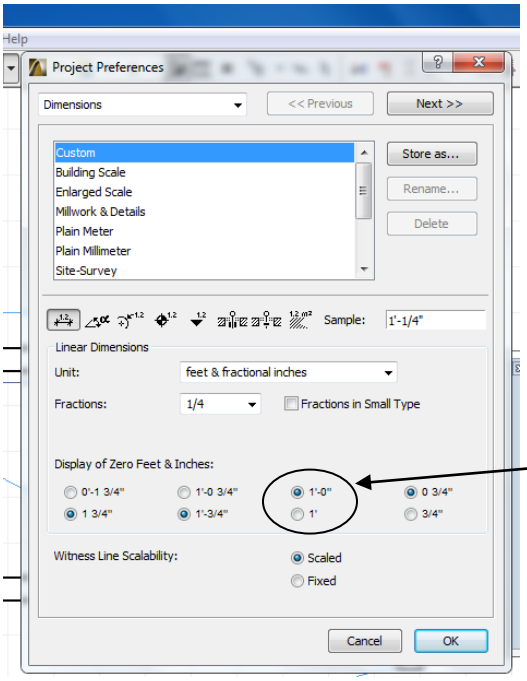
Click **Ok**
Set the distance in the Line Division Bar to 3'0"

A. To Place windows sampling place your cursor on an outside wall to show the hash marks. (Note the Snap tool must be off in order for this to work)
B. Left Click once on the aspirate hash mark to locate the window
C. Then place the cursor on the outside of the wall on one of the arrows to determine the swing of the window (which is the outside of the building) and Left Click again. The window should be placed.
D. Place the following windows on your sheet



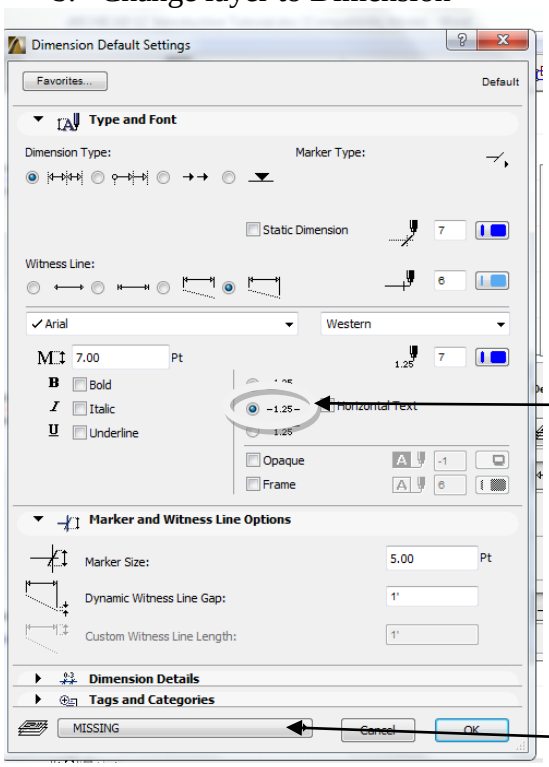
Step 9 Dimensioning

1. Changing the Working Units
    a. Options > Project Preferences > Dimensions > Change the following



Change the third options From: 1’
To: 1’-0”

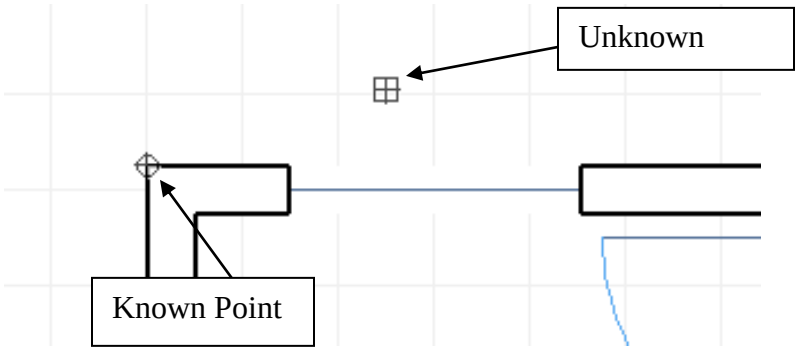
    b. Click OK
2. Select Dimension tool from Tool Box.
3. Click the Dimension Default Menu from the Info Box
    a. Change the text so it appears in the middle of the dimension line
    b. Change layer to Dimension



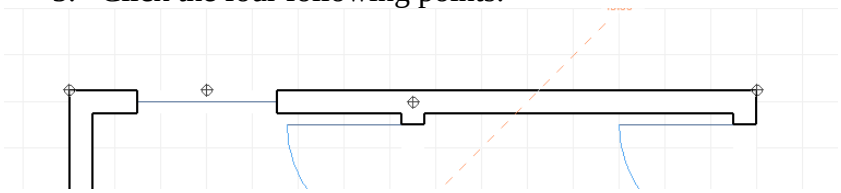
Change placement of Dimension value

Change layer to Dimension

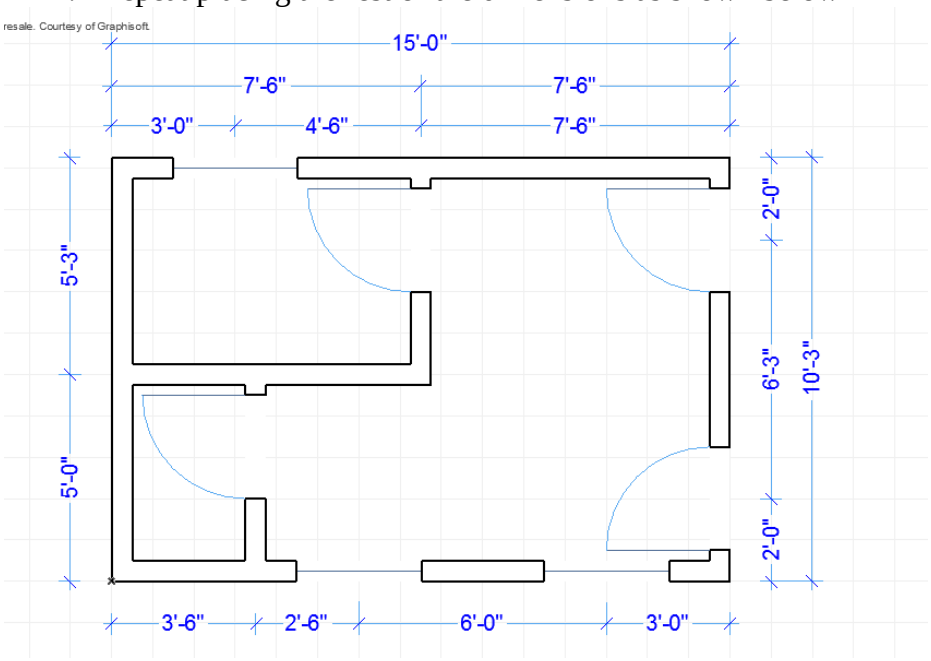
4. Layers of Dimension
   To place a dimension the user can click on as many known points as they desire to mark off dimension lines. There are three layers of dimensions
   - **a.** First layer starts on the outside of the house then located the center of interior walls, center of doors, and center of windows then to the outside of the opposite exterior wall.
     Note: when locating a known point the cursor will change to a check mark. When left click a circular target should appear. If a square target appears then a known point was not checked and the user will have to start over.
   - **b.** Second Layer starts on the outside of an exterior wall then finds the center of the interior walls followed by the opposite exterior wall
   - **c.** Third Layer shows the overall size of the house.



5. Click the four following points.



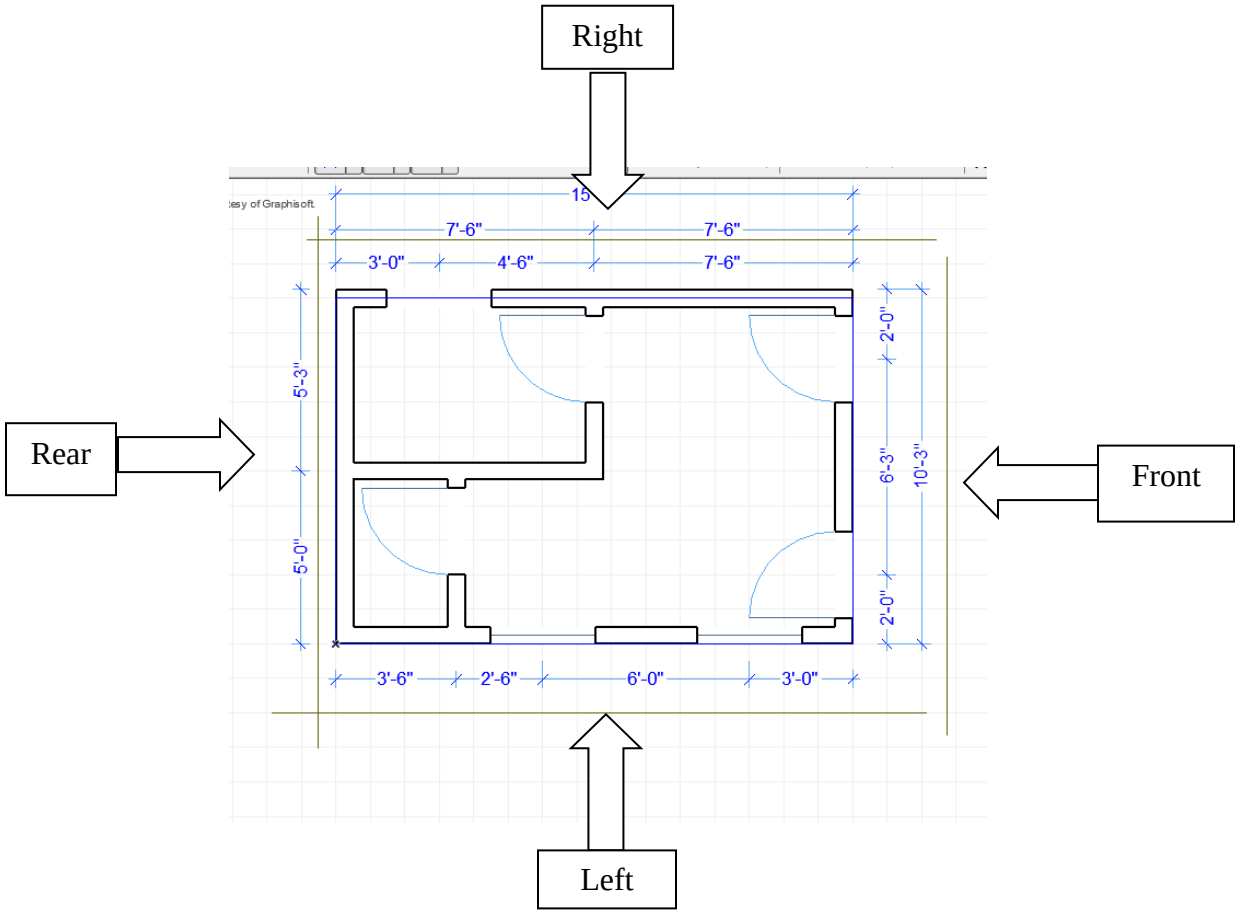
6. Double click above the wall; the cursor should change to a hammer. Place the cursor one grid (may turn on the snap to lock in) > Left click to place
7. Repeat placing the rest of the dimensions as shown below



SAVE Tutorial

Step 10 Exterior Elevation

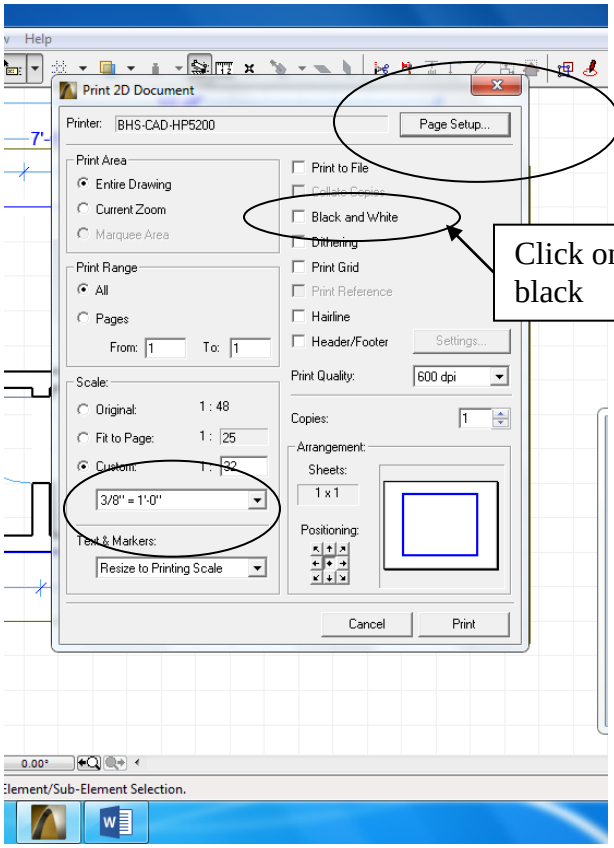
1. Select the Elevation in the Toolbox
2. Select the Default Elevation icon from the Info Box
3. Change the following
    a. Name the elevation: Front Elevation
    b. Status = Manual Rebuild Model
    c. Marker > Marker Type > No Marker
    d. Story Levels > Show Story Levels > None
    e. Layer > Exterior Elevations
    f. Click OK
4. To the right of the left vertical exterior wall (the wall with the two exterior doors; at least one grid box to the right) select below the lower horizontal exterior wall drag a line vertical to the upper horizontal exterior wall, then left click > Left Click left of this line to tell the software which way to look. A brown line will appear, this is the elevation line. NOTE: this line will not print.
5. Repeat steps for the Right, Left and Rear Elevation. Be sure to rename each elevation before making it.



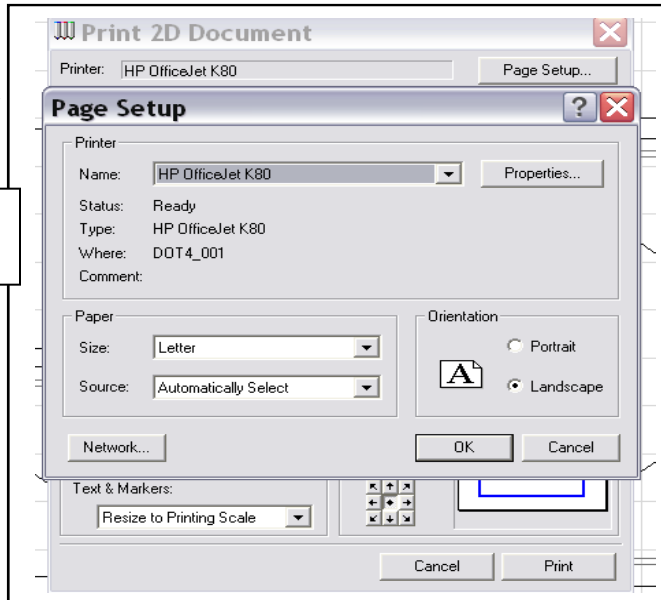
6. In the Navigator window > Under the Elevation category 4 elevations should be listed. Double click on one of them. A new window will appear showing the elevation. To go back to the floor plan, minimize the window or click the x to close the active window. Be careful not to click the x close for the program

Step 11 Printing

A. Using the Text Tool Place your Name, Date, Hour in bottom right hand corner of the sheet like the following. The Text Tool is setup like creating a text box in Microsoft Word or Paint.
   Place all text under the **Text** layer
   Font Height 8
B. Printing
   Go to **File > Print > Set the Following**
   Page Setup > Landscape
   Scale =3/8=1'0"
   Black and White



Click on All colors to black



Printer: CADD HP5200
Paper Size: 8.5 x 11 (Letter)
Orientation: Landscape

Click Ok to Print.
Repeat steps for Exterior Elevations.

a. Should end up with 5 sheets to turn in.

Turn in Print Outs and Show Mr. Jourden Computer File