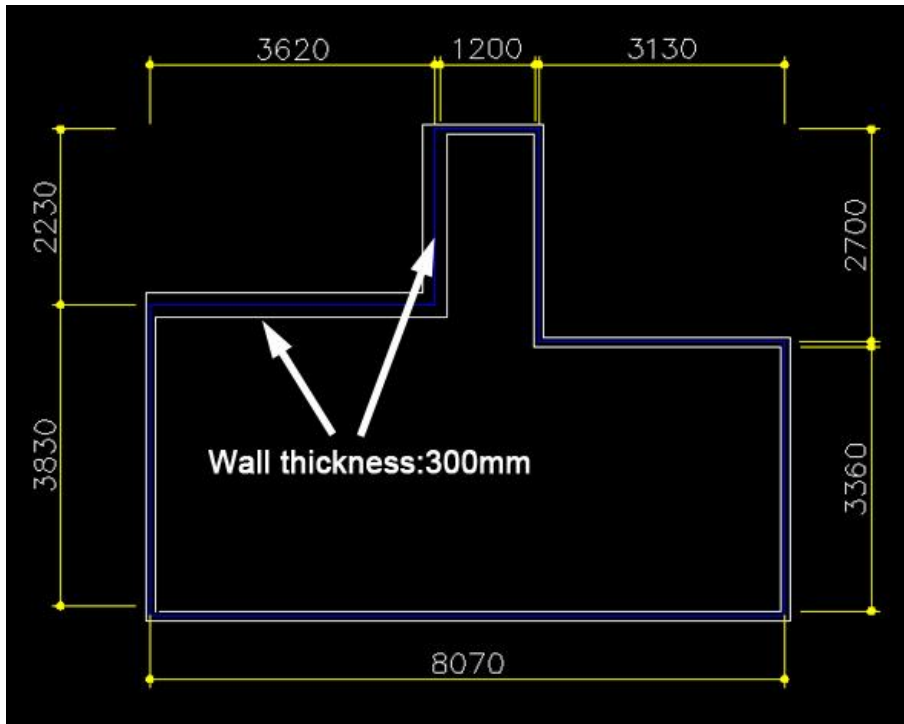


Modeling

Step 1: Wall.....	2
Step 2: Door and window	7
Step 3: Floor	12
Step 4: Ceiling	14
Step 5: Ceiling light.....	17
Step 6: Decorative Wall	22
Step 7: Wall hole.....	33
Step 8: Wall hole light.....	38
Step 9: Balcony	42
Step 10: Sunlight	45
Step 11: Export to VR	47

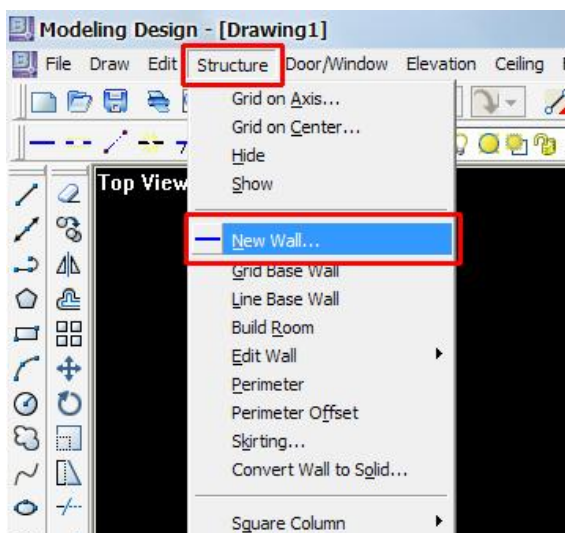
Step 1: Wall

Floor Plan

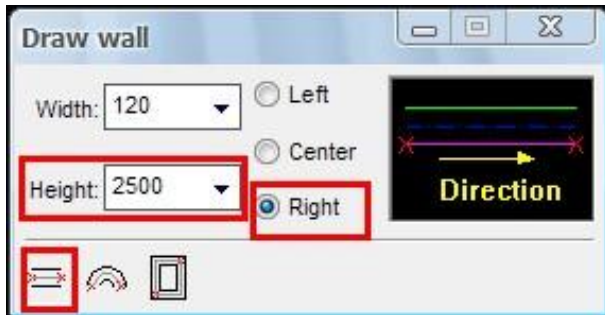


1.1 Draw the wall

1.1.1 Structure->new wall

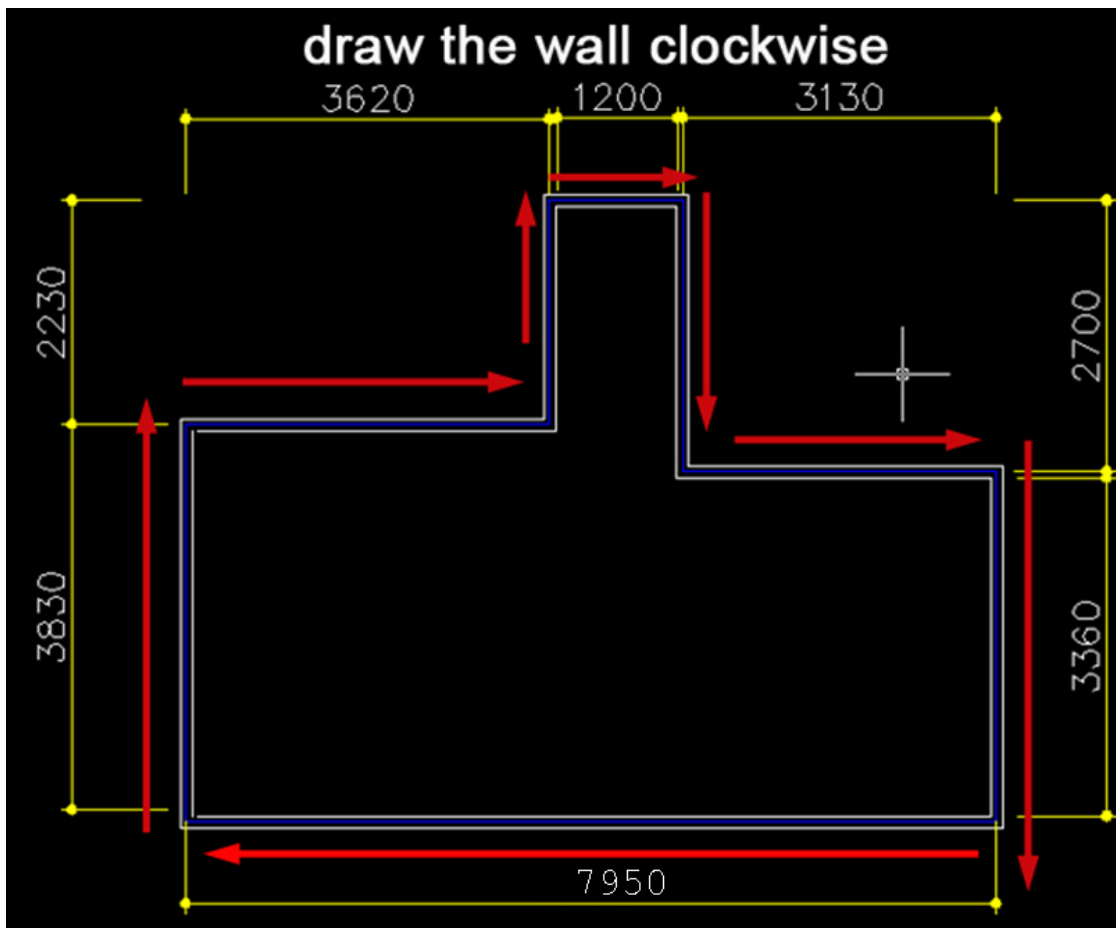


1.1.2 Wall parameter



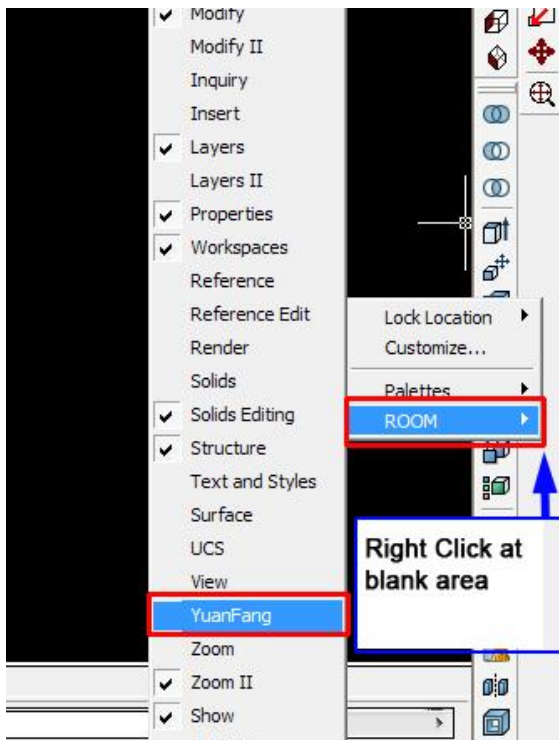
1.1.3 Draw the wall clockwise

Draw the wall according to the dimensions as the picture below.



1.2.Edit wall thickness.

1.2.1 Show YuanFang panel



1.2.2 Set the first wall thickness

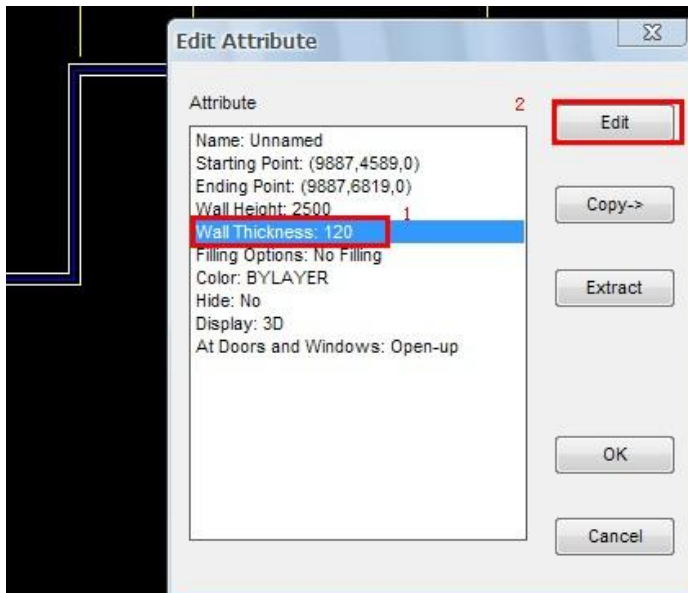
After click the YuanFang tab, the following function bar will pop up.

a.Click the first tab *Attribute Edit*



b.select the wall.

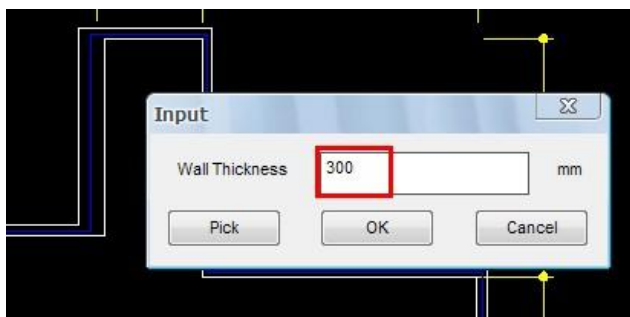
This dialog box will pop up.



c.click wall thickness,

d.click Edit.

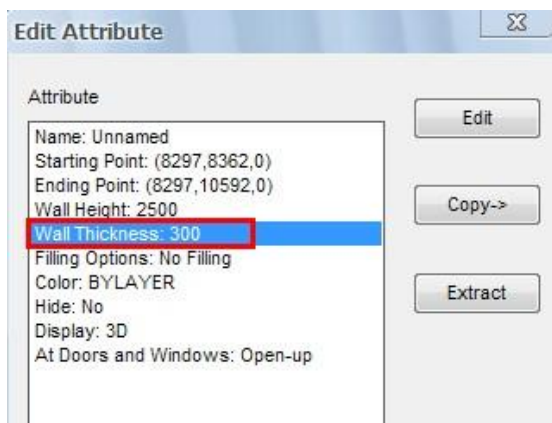
e.enter 300 in the following dialog box.



f.click OK to confirm

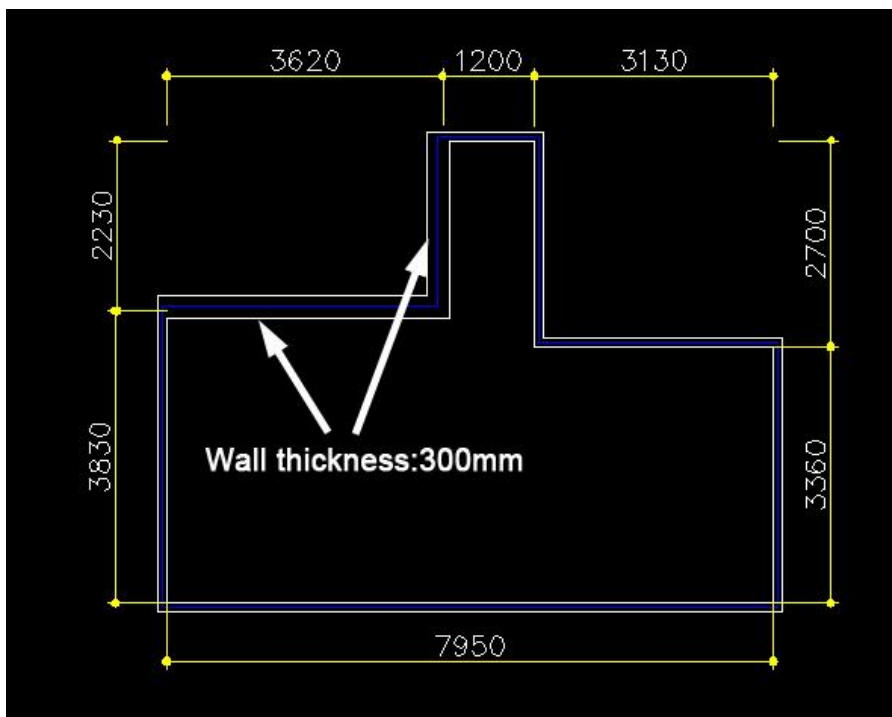
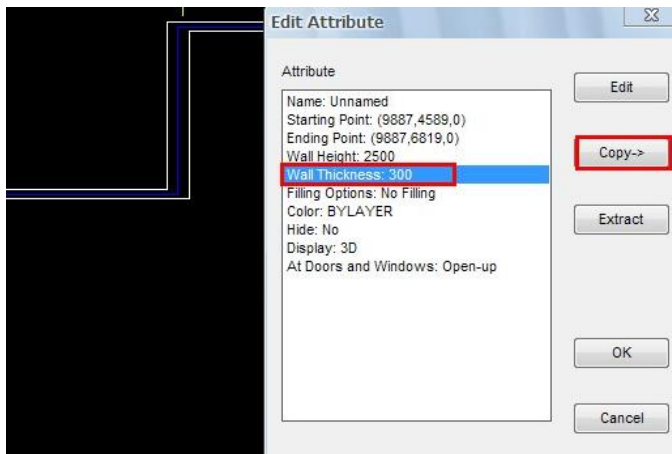
1.2.3 set the thickness of another wall

a.Click the wall thickness 300



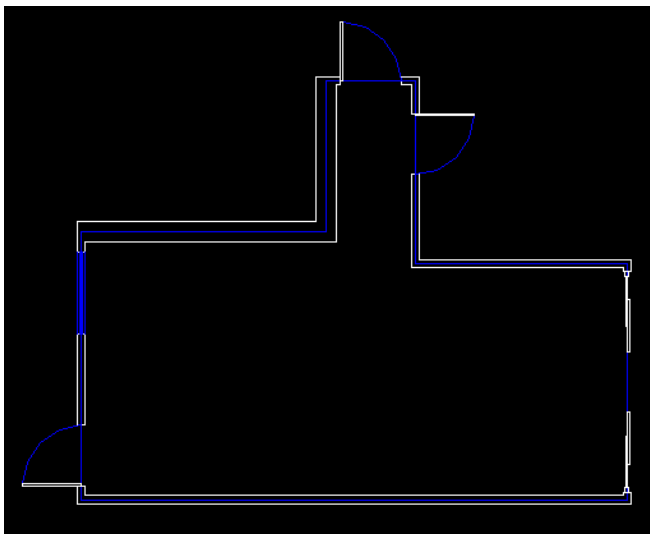
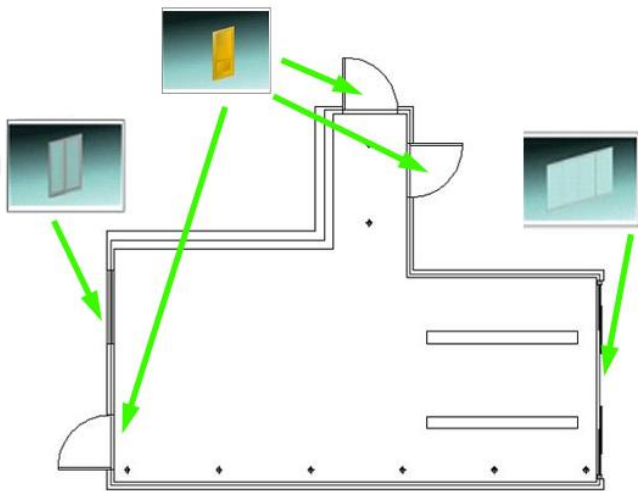
b.click copy

c.select another wall.



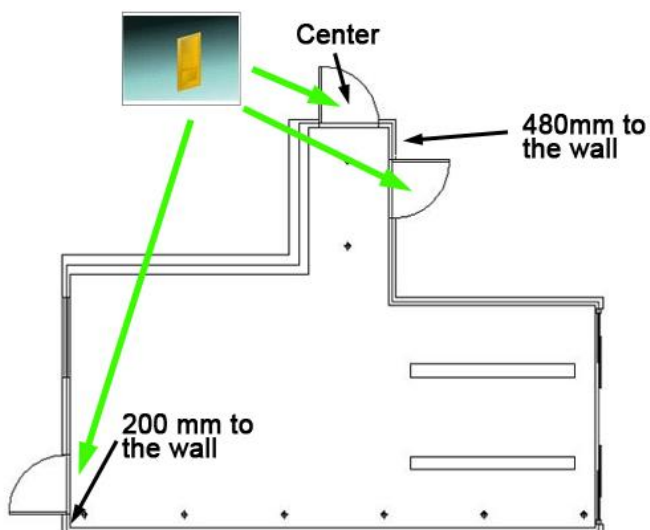
Step 2: Door and window

Door and window position

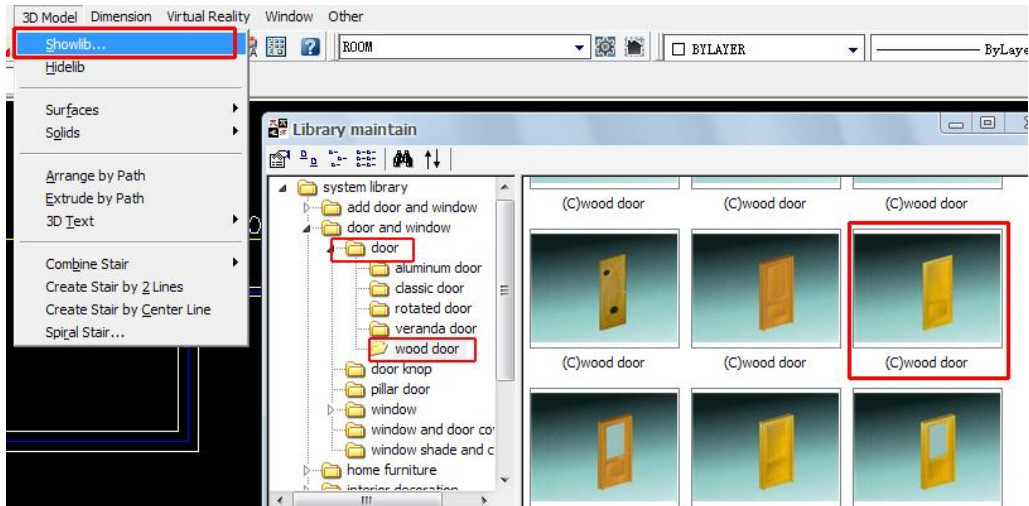


2.1 Wood door

Window installation position



2.1.1 Door->wood door

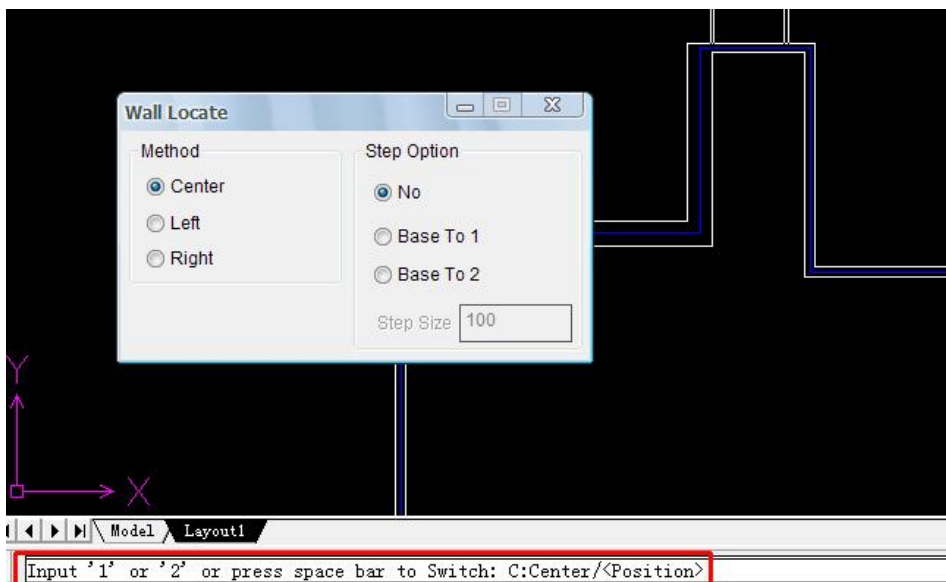


2.1.2 Door parameters

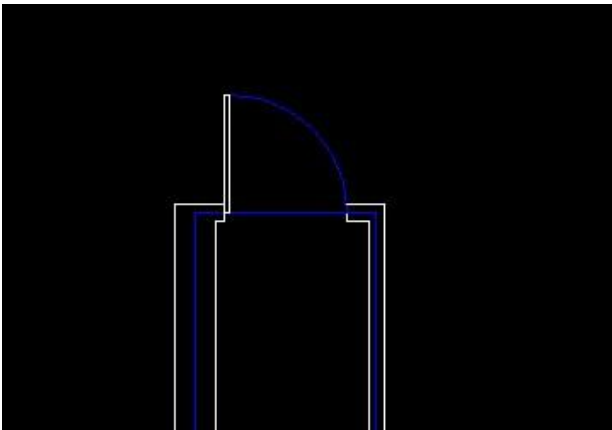
a.Width 900、 height 2200、 Raise 0



b.click on the wall on which installed the door



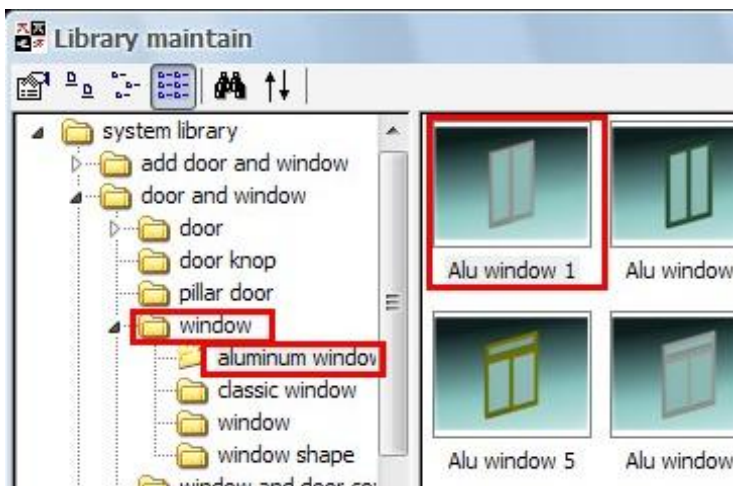
C. Enter **C** , then **Enter** twice



2.1.3 Install the other two doors in the same way

2.2 Window

2.2.1 Window> aluminum > Alu window 1

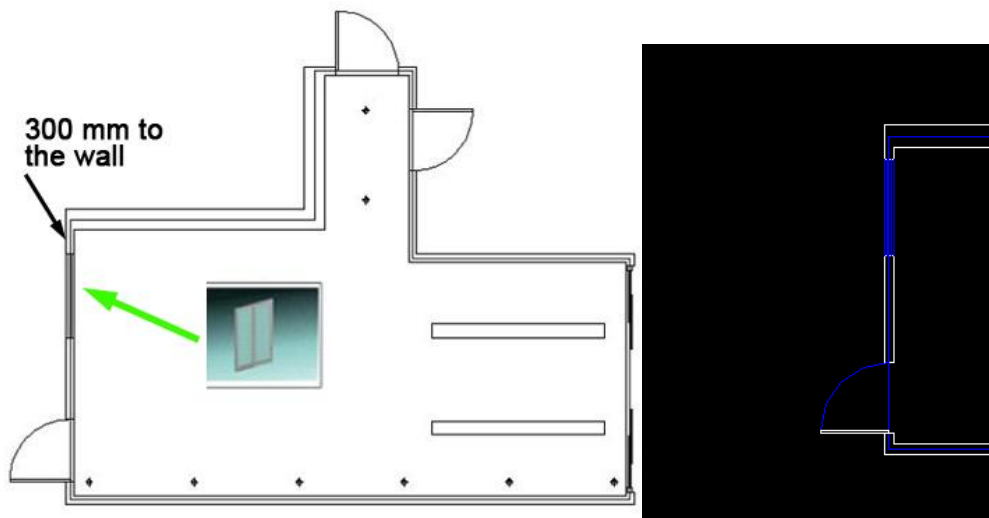


2.2.2 Window parameters

Width 1200、 height 1400、 raise 800

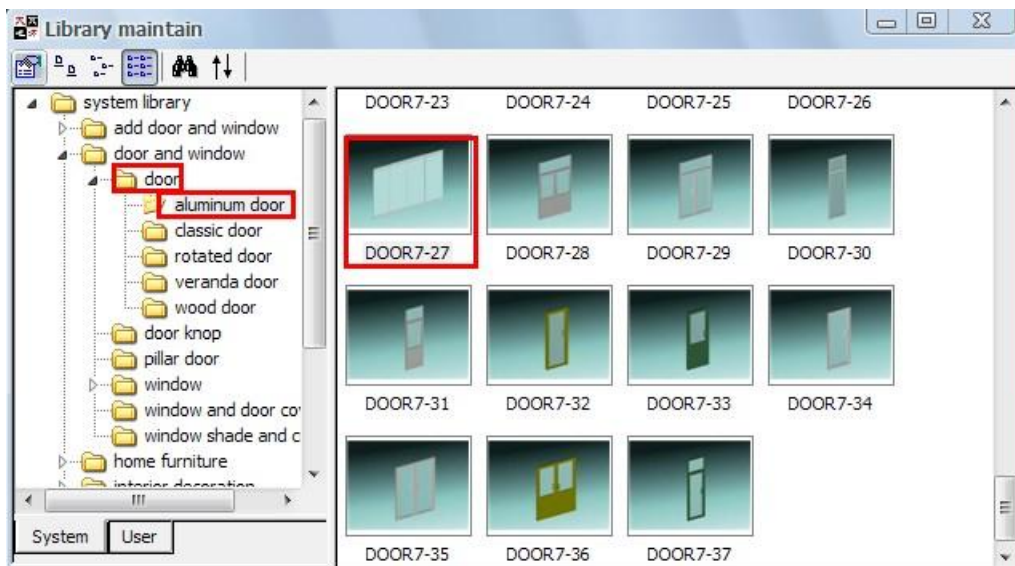


2.2.3 window position



2.3.Balcony door

2.3.1 Door->aluminum door

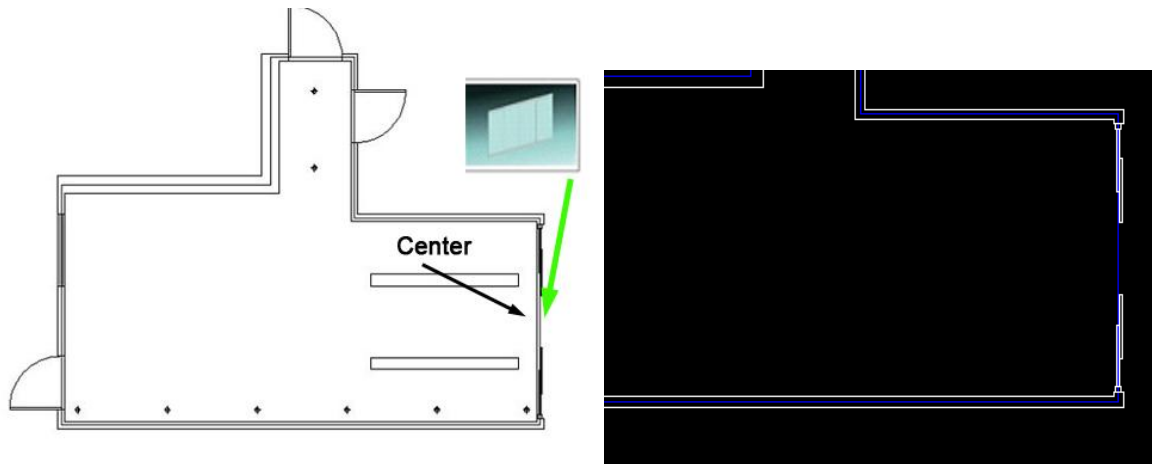


2.3.2 Door parameters

with 3260、height 2500、raise0

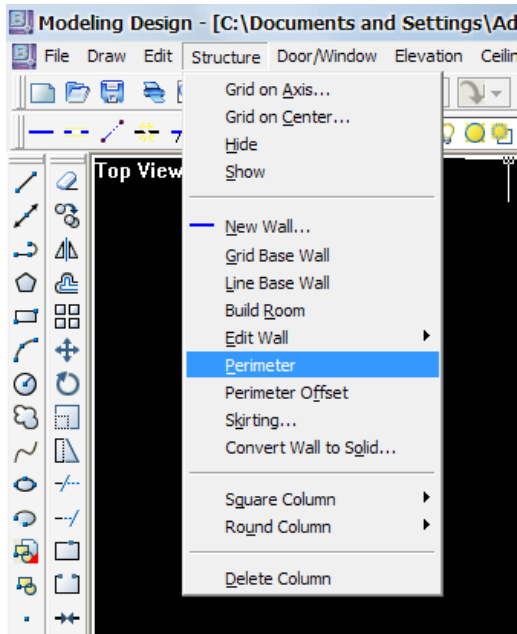


2.3.3 balcony door position



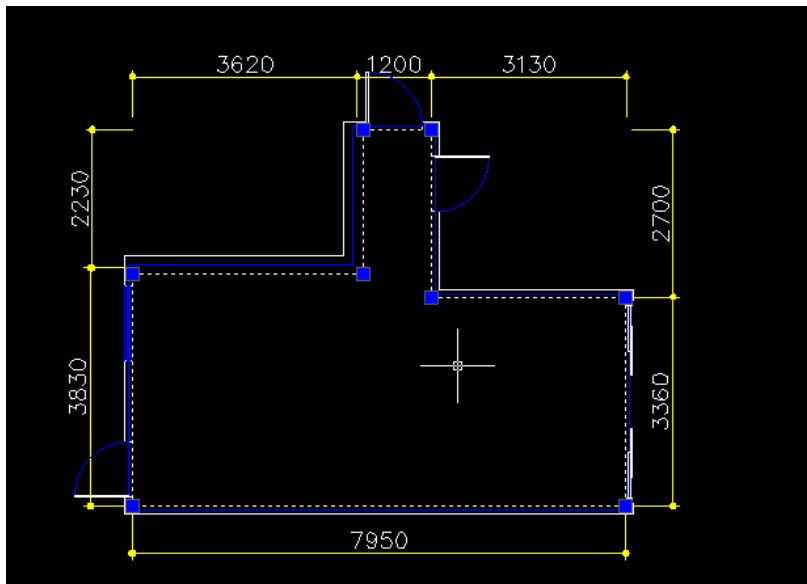
Step 3: Floor

a. Structure-> Perimeter.

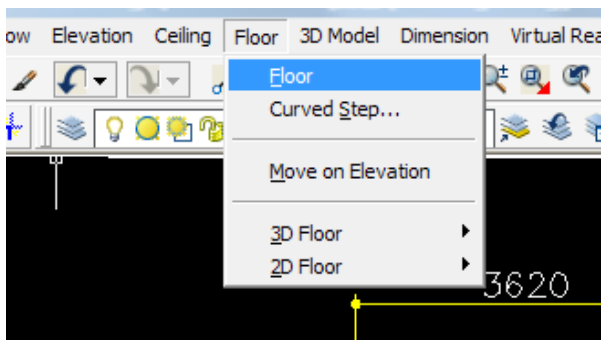


b. One click in the room area.

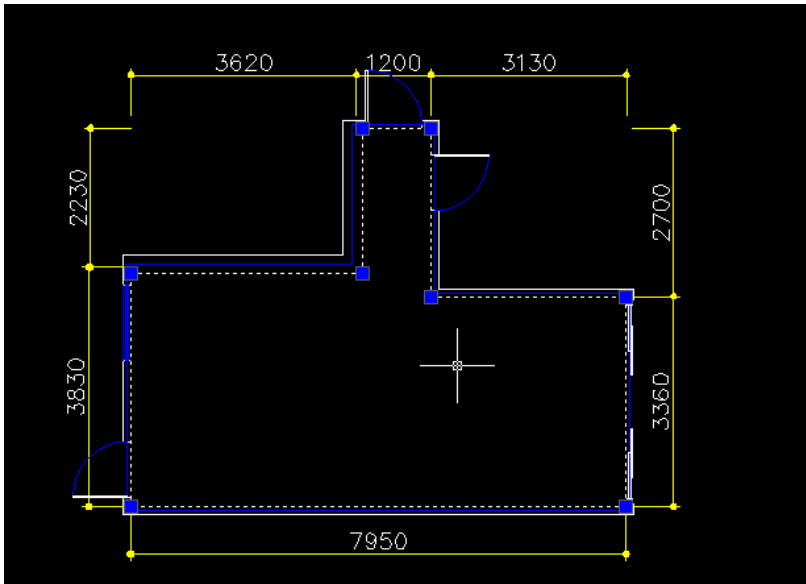
It will generate inner wall line automatically, as the dotted line in the following below.



c. click Floor->Floor.



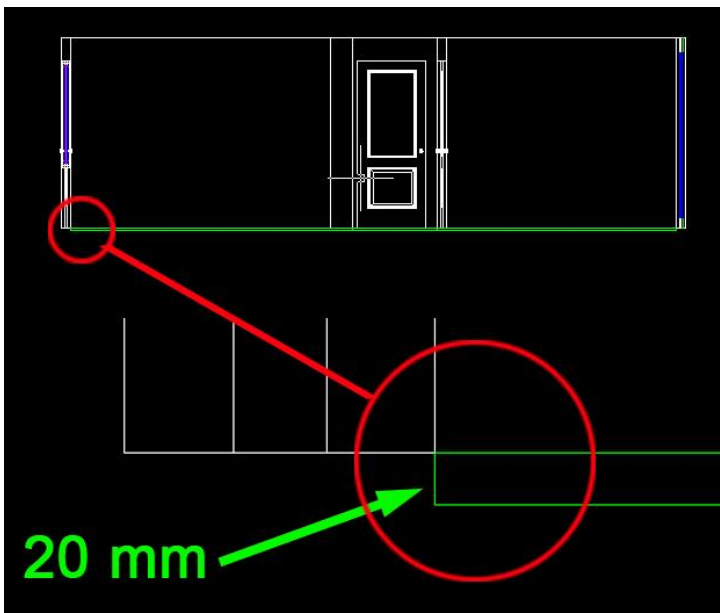
d. Select the inner wall line.



e. One click inner room area

f. Enter -20. Enter again.

The floor will be created.

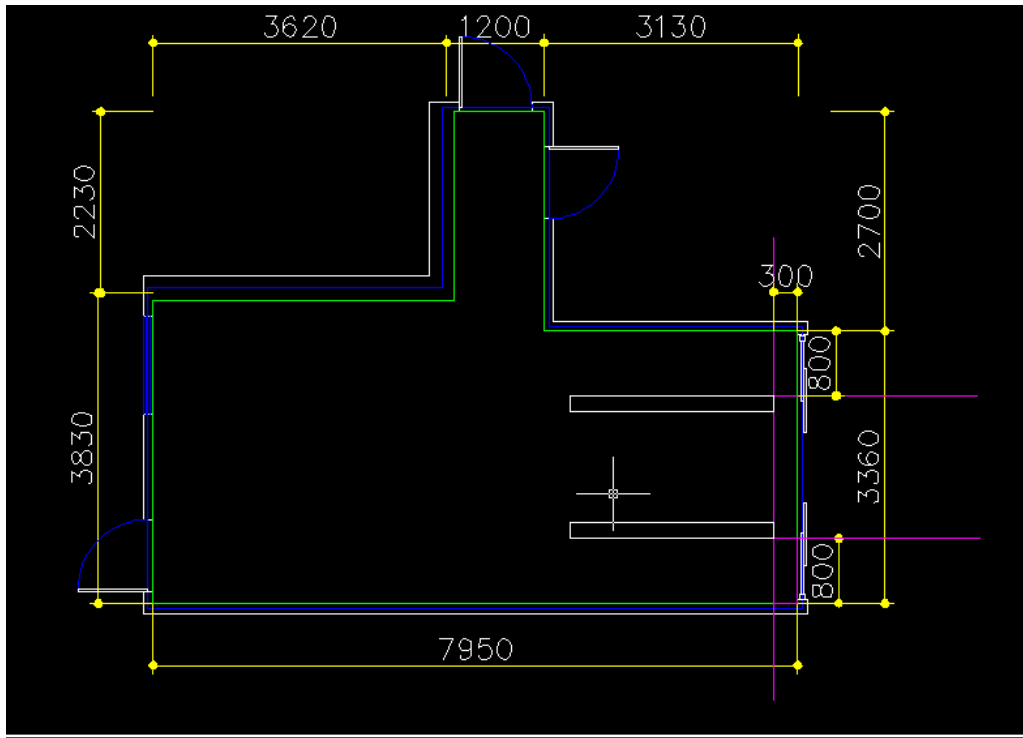


Step 4: Ceiling

4.1. Draw layered ceiling shape

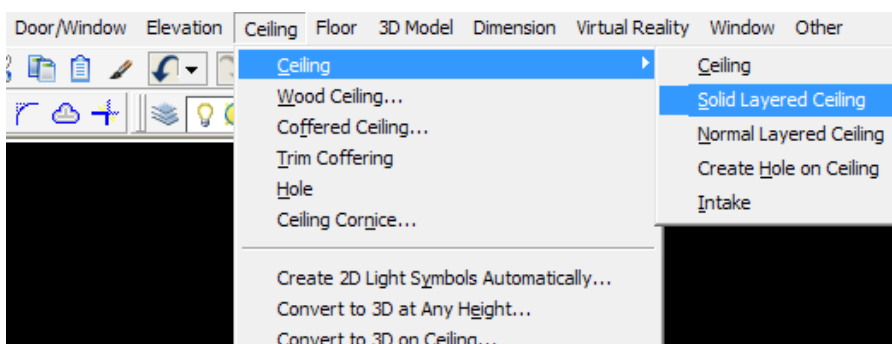
Draw two rectangles 2500*200 on the floor.

The pink lines are auxiliary lines used for pinpointing the position of the rectangles.

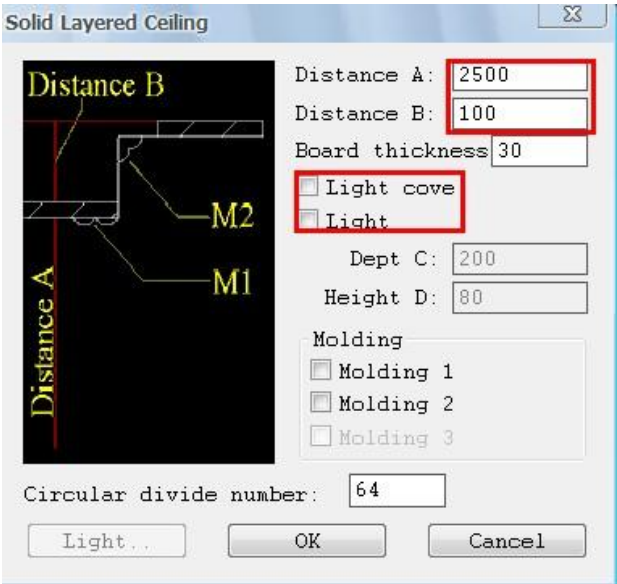


4.2. Create solid layered ceiling

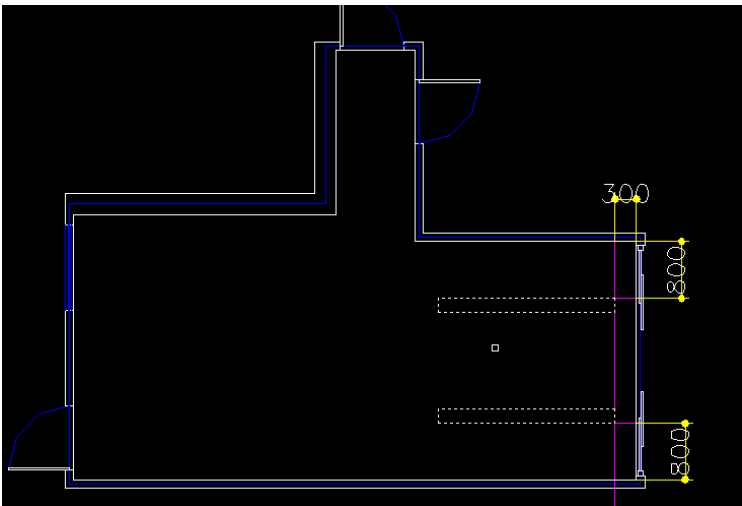
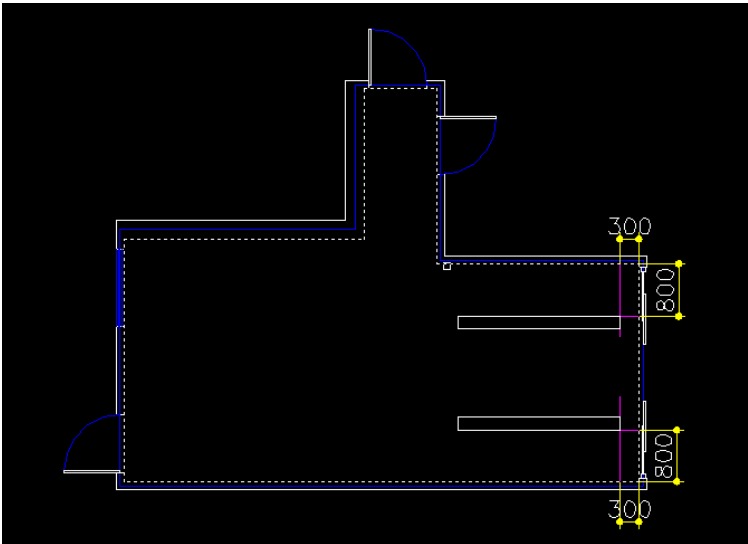
a. Ceiling->Solid Layered Ceiling



b.Ceiling parameters

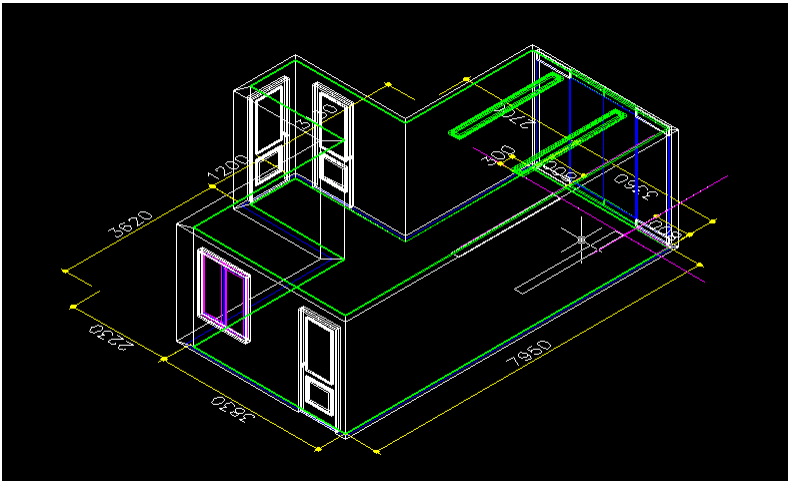


c. Select the inner wall line, right click to confirm.



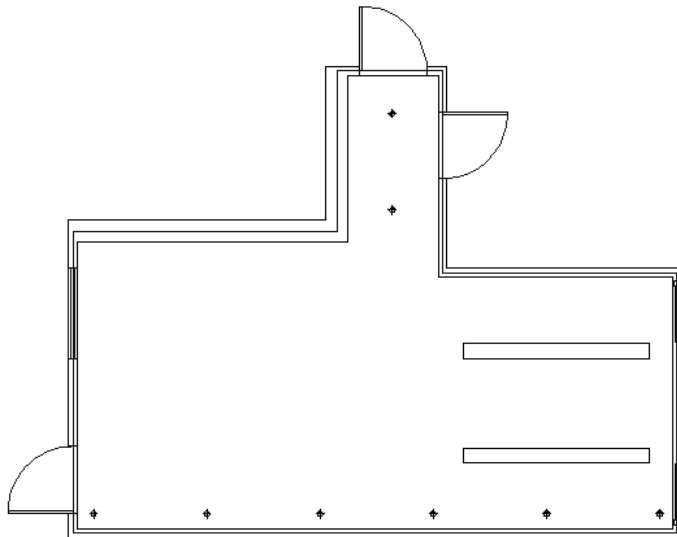
d.select the two rectangles,right click to confirm.

Then solid layered ceiling will be created.



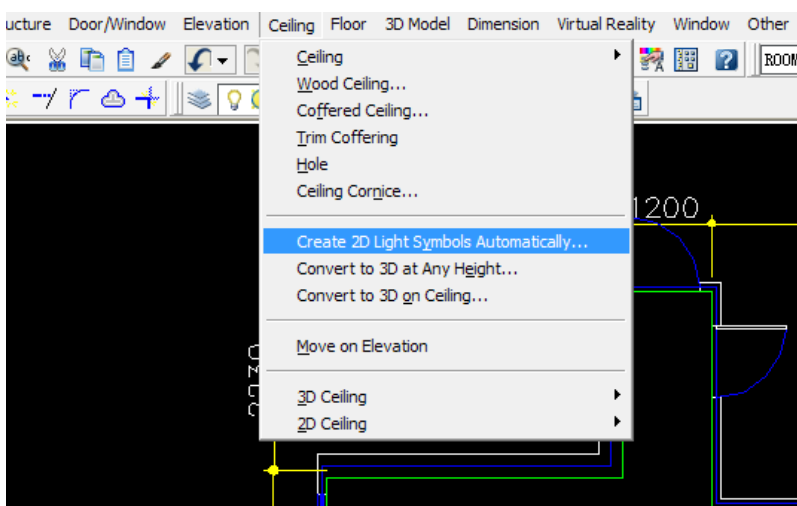
Step 5: Ceiling light

Ceiling light layout

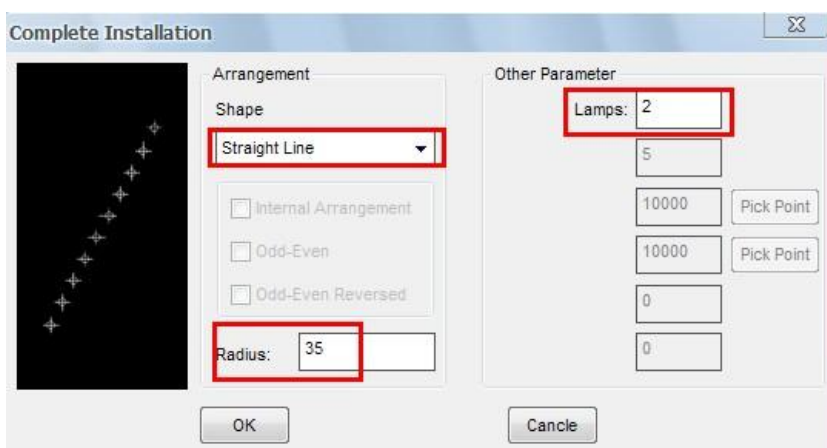


5.1 Create lights in corridor

5.1.1 Ceiling->create 2D Light symbols automatically

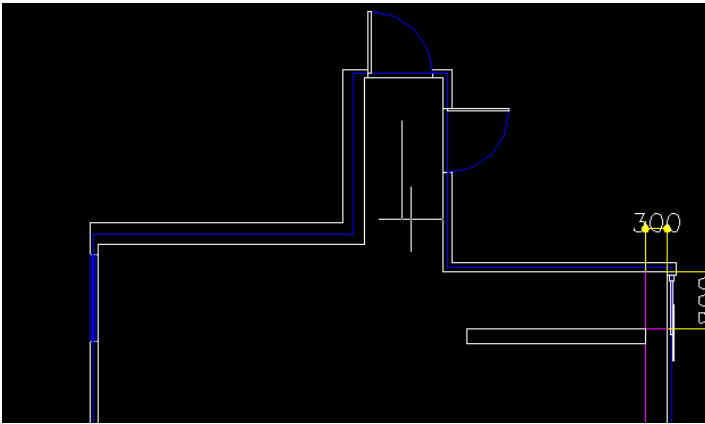


5.1.2 Light parameters

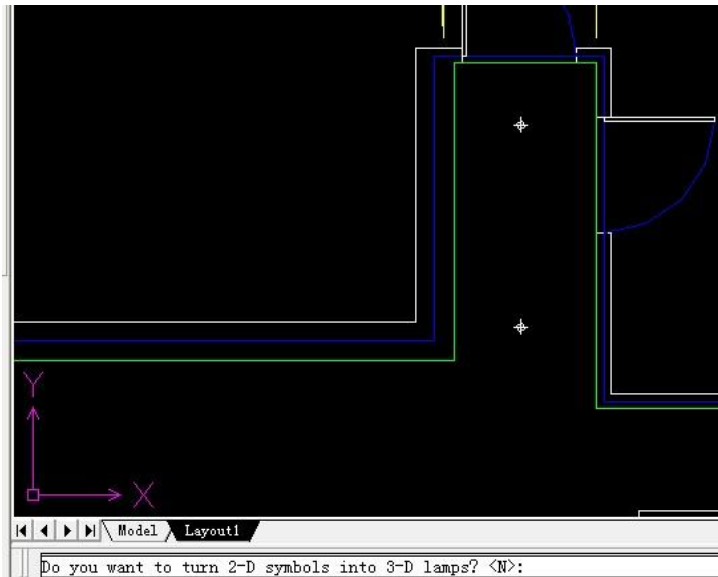


5.1.3 Install light

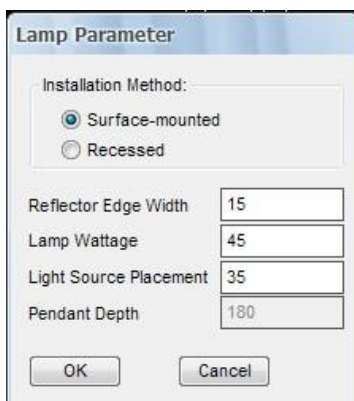
a. Click one point and then click second point.



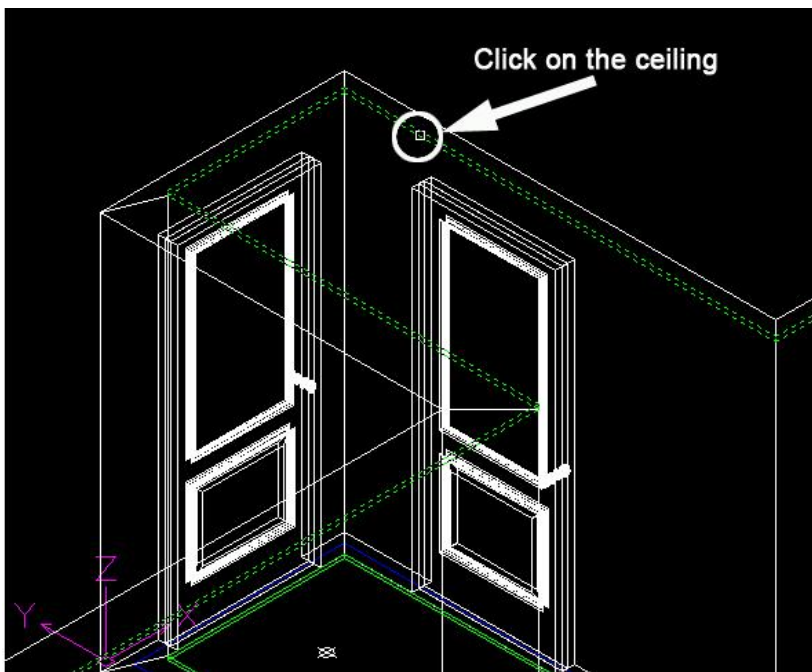
b. Right click to confirm. Then enter **Y**



This dialog box will pop up. Then click OK

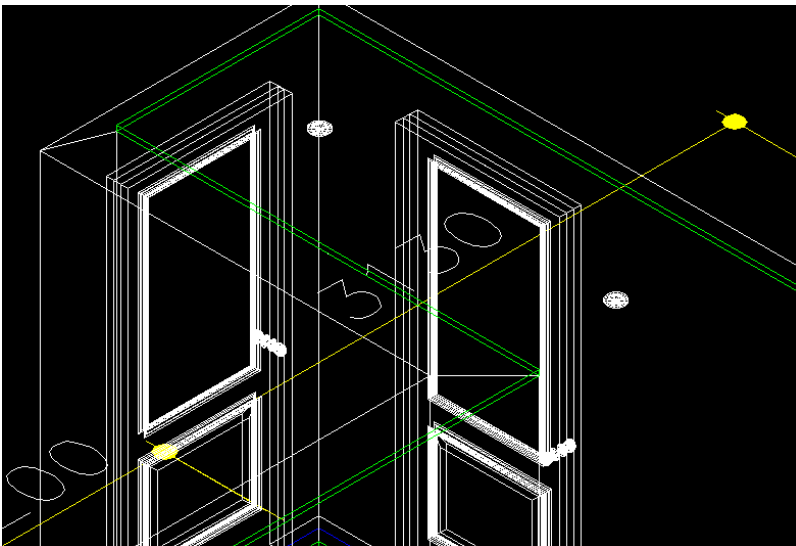


c. Click on the entity ceiling.



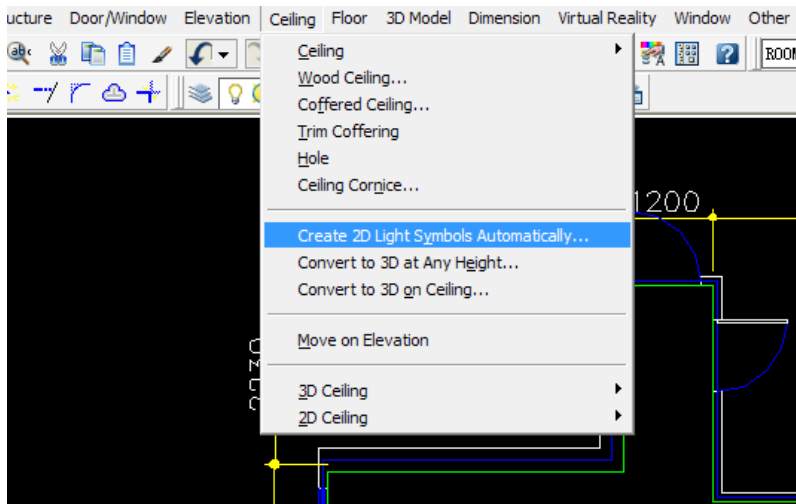
d.Right click to confirm.

Then the lights will raise to the ceiling.

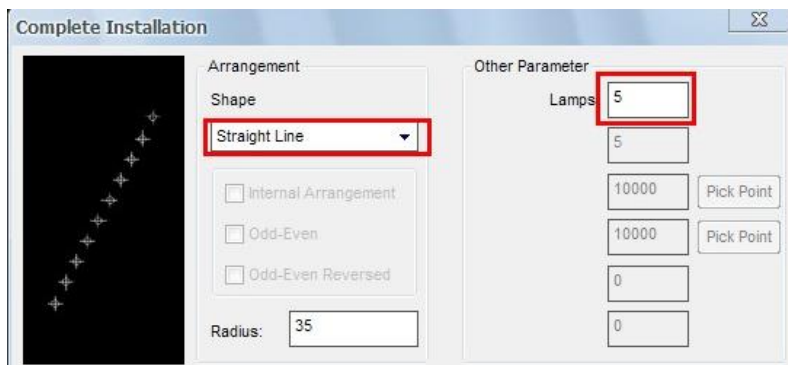


5.2 Create lights beside back wall

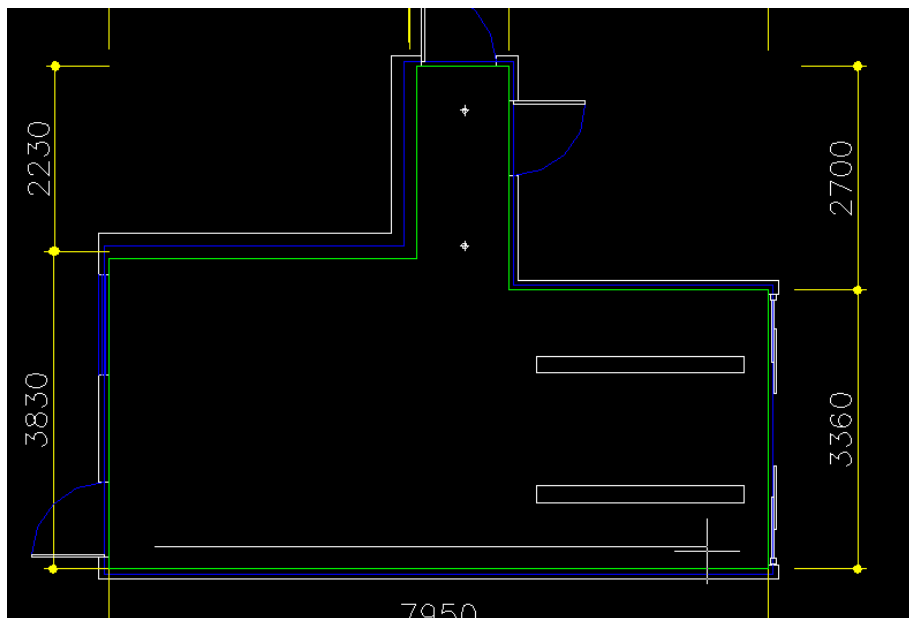
5.2.1 Ceiling->create 2D Light symbols automatically



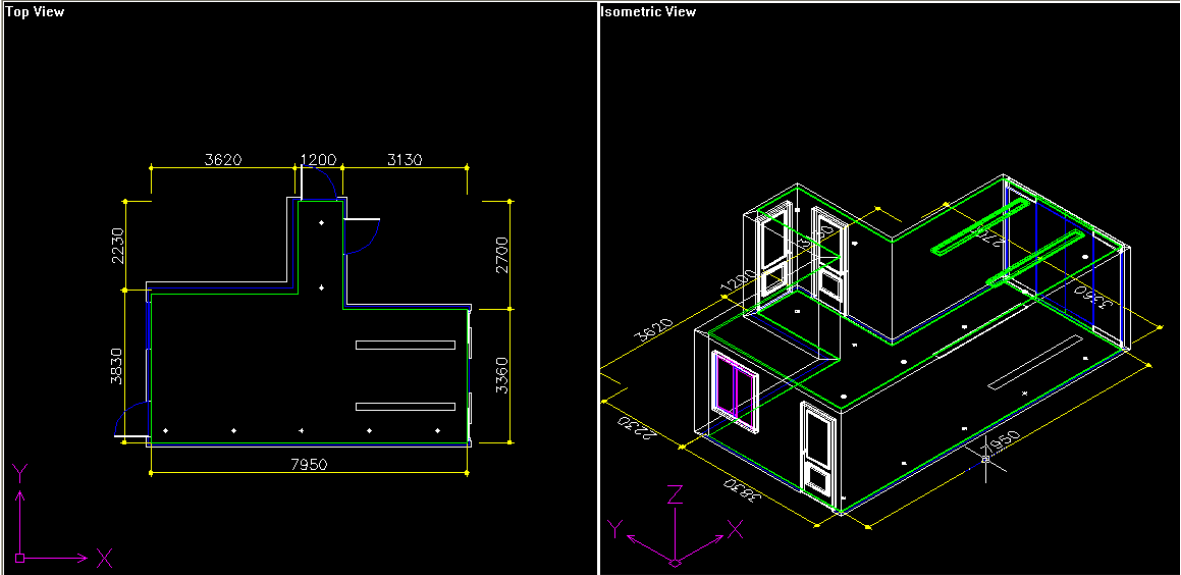
5.2.2 Light parameters



5.2.3 Draw a line near the bottom side of the room



The following operation is the same as the one before.



Step 6: Decorative Wall

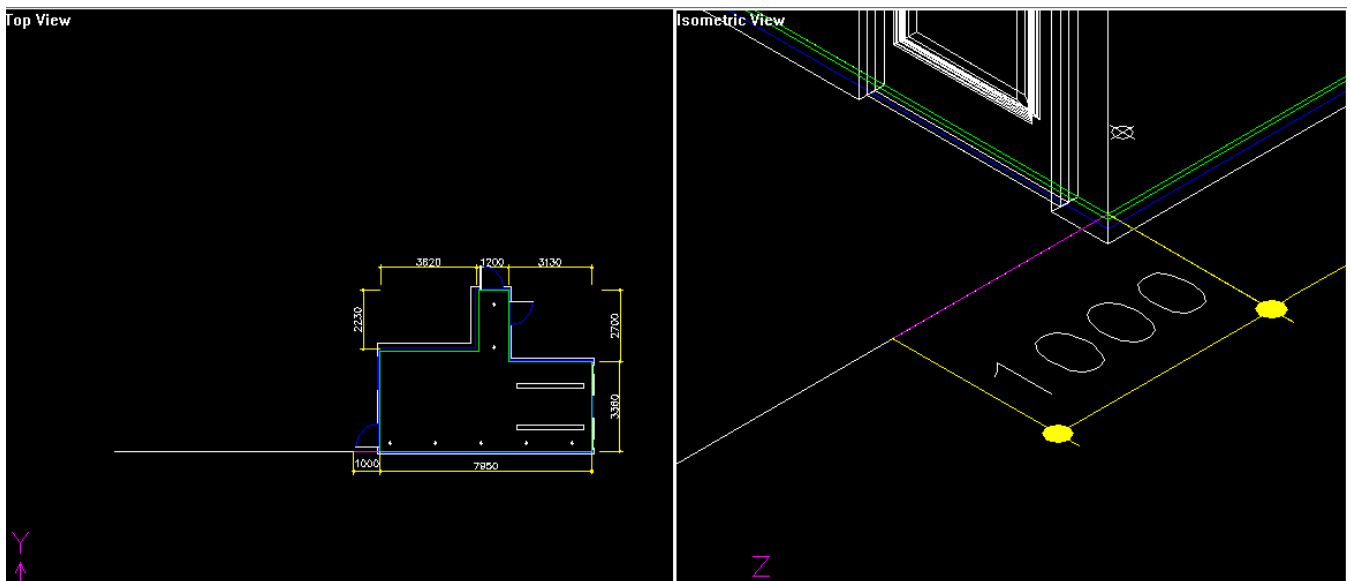
In order to draw the back wall conveniently, we can create the whole decorative wall separately and then move back to the scene.



6.1 Prepare space to design decorative wall

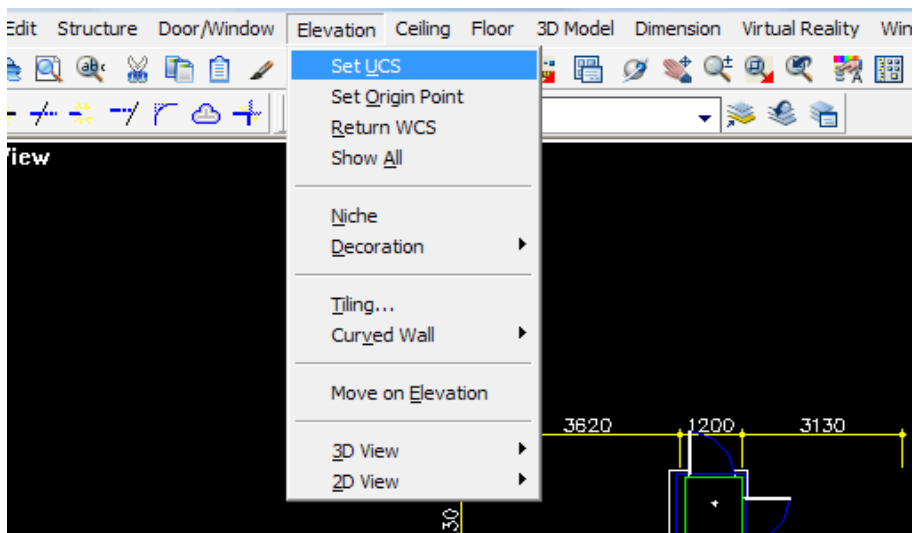
6.1.1 Draw auxiliary line

- Draw an auxiliary line from the left bottom point of the back wall as in the picture.
- Draw a 1000 mm line which can be used to move the shape accurately.
- Set the 1000 mm in a different color will make it easier to position the shape designed later.

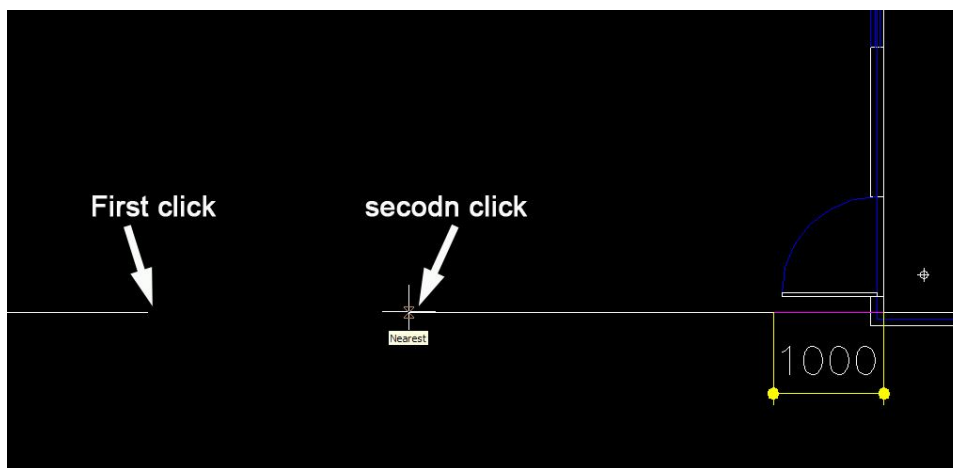


6.1.2 Set UCS

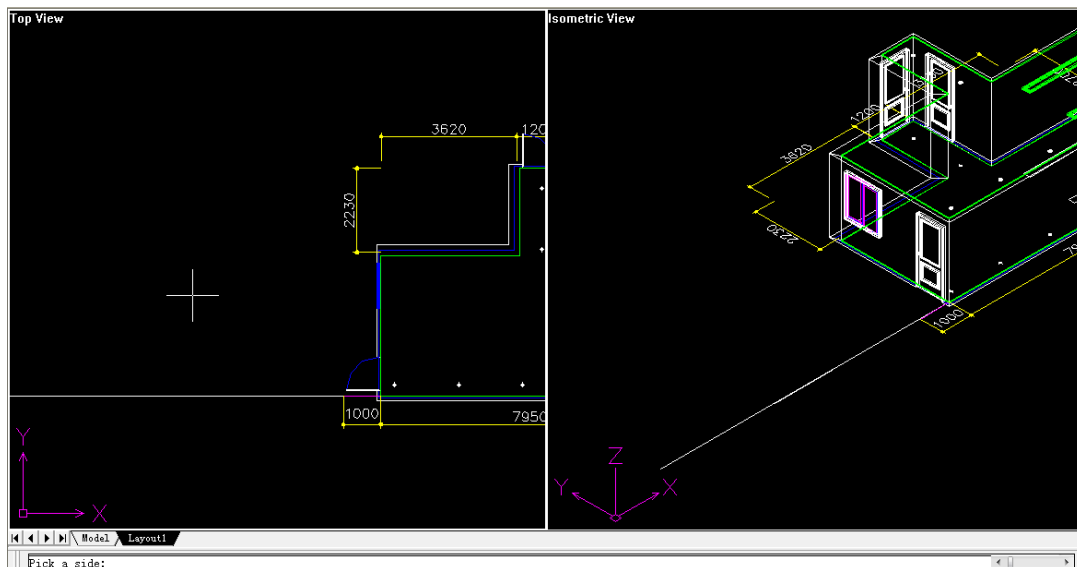
- Then we set UCS on this line.



b. First click on the line then second click on the line.



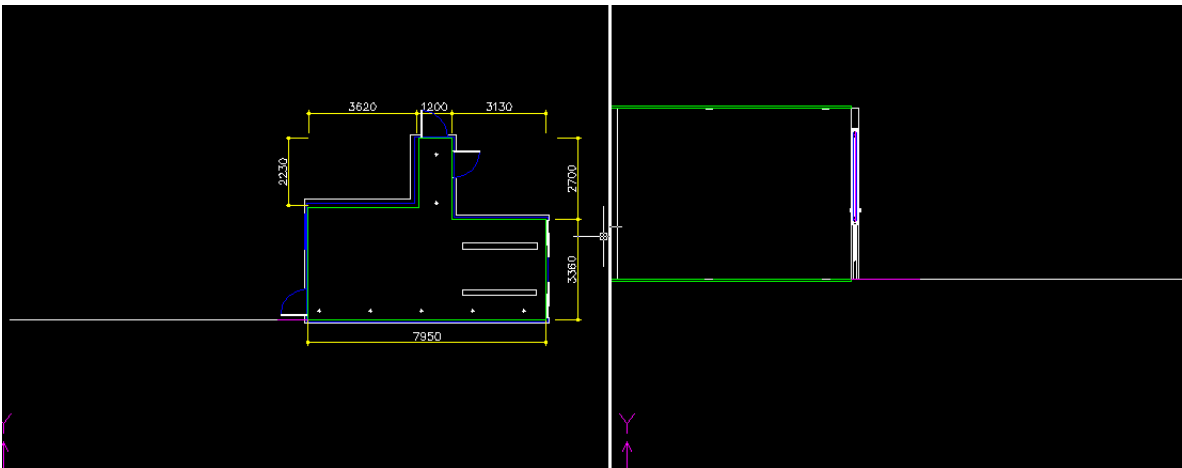
C. one click in the area above the line to pick a side.



d. one click in the isometric view to select elevation viewpoint.

Then the viewpoint will be like this.

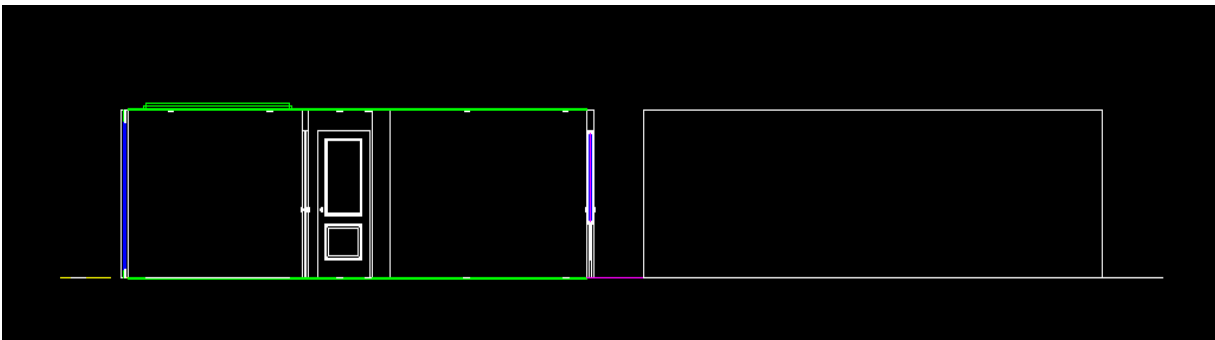
Now we can draw shapes above the auxiliary line on a plane which is perpendicular to XY plane.



6.2 Create door and decorative wall

6.2.1 Draw the board shape

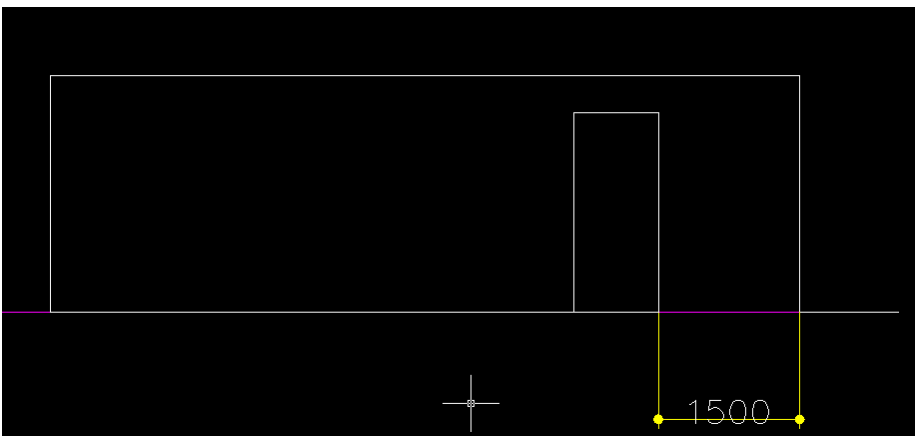
Create a big rectangle: 7950*2500 as the right one in this following picture



6.2.2 Draw the door shape

a. draw a door shape: width 900mm、 height 2100mm、

1500 mm to the right side.



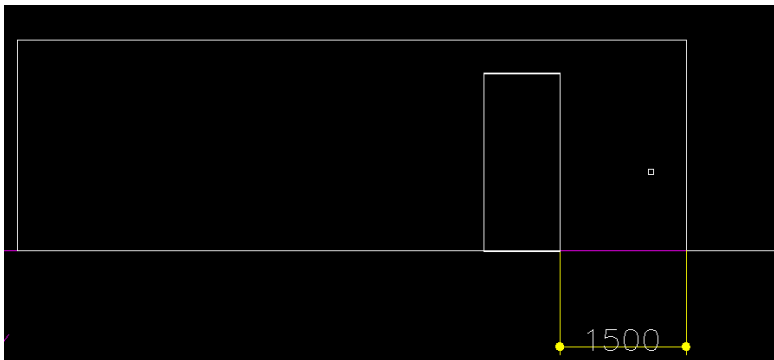
b. Use offset function to create the thickness of the door.

c. Click the offset function.



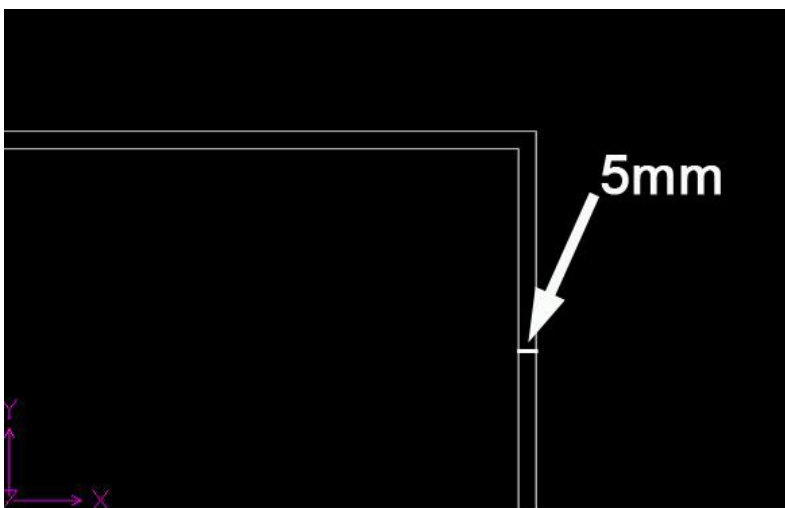
Enter 5. Then select the rectangle.

d.click outside of the rectangle.



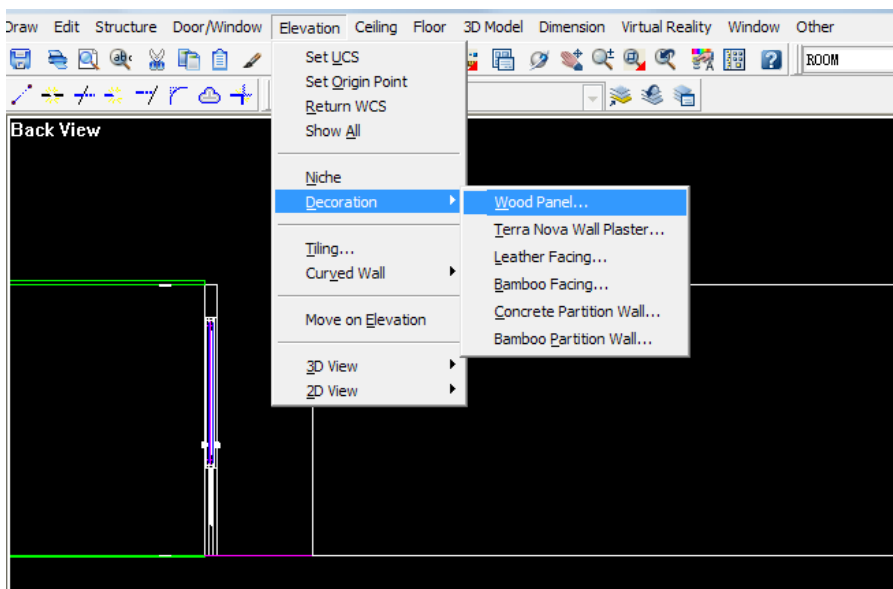
A similar but bigger rectangle will be created.

Each side of this bigger rectangle is 5mm to the original one

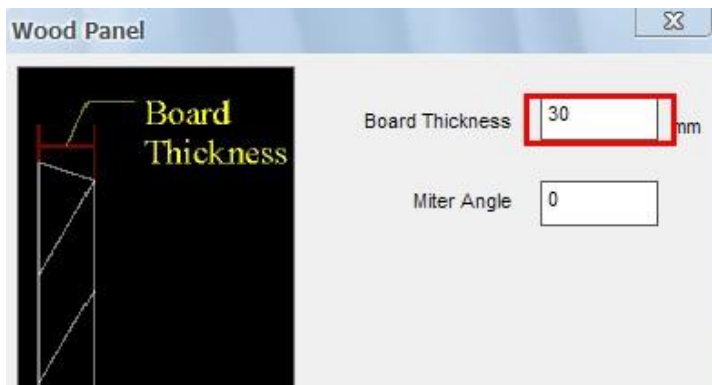


6.2.3 extrude the wall

a.elevation->decoration->wood panel



b.set the thickness of the board.



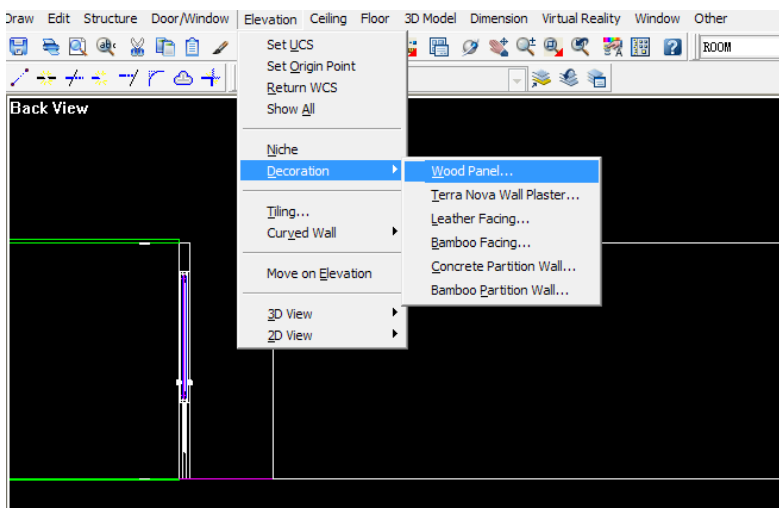
c. Click on the 7950*2500 rectangle.

d. Click inside this rectangle.

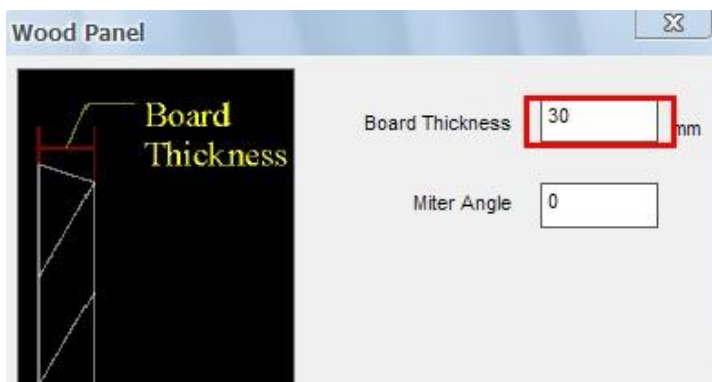
The shape will be extruded as a panel.

6.2.4 Use the same way to extrude the door shape.

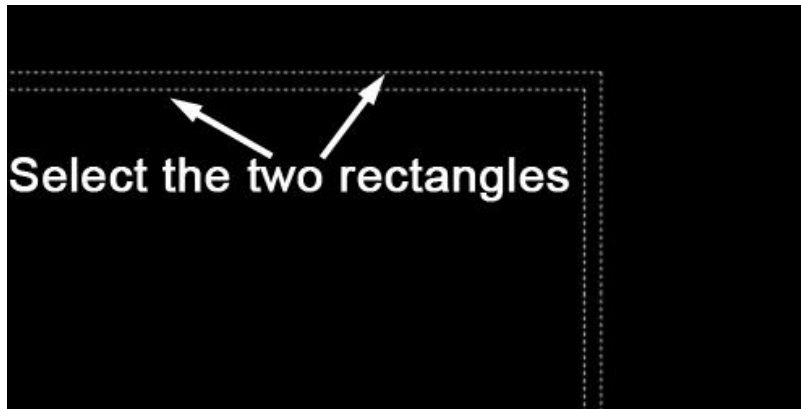
a. elevation->decoration->wood panel



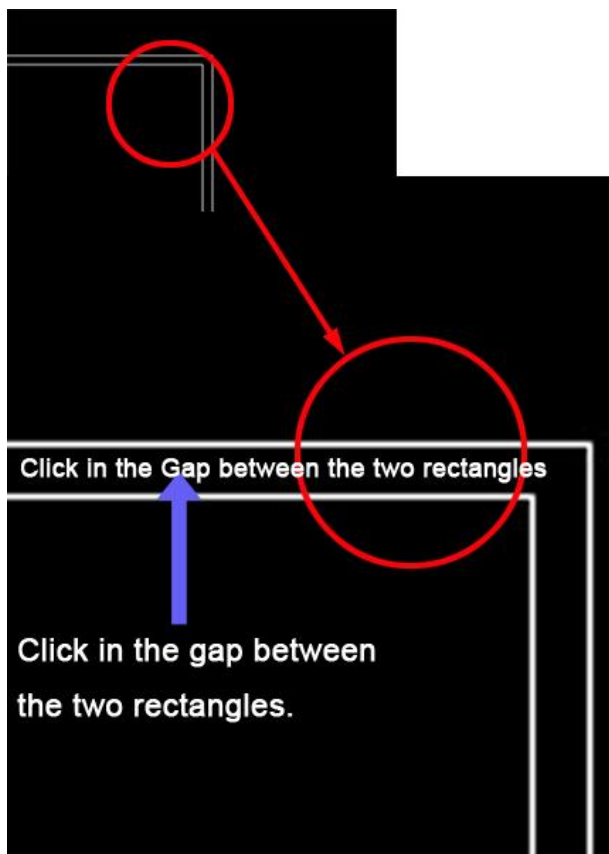
b. set the thickness of the board



c. Select both of the two rectangles, one big one small. Right click to confirm



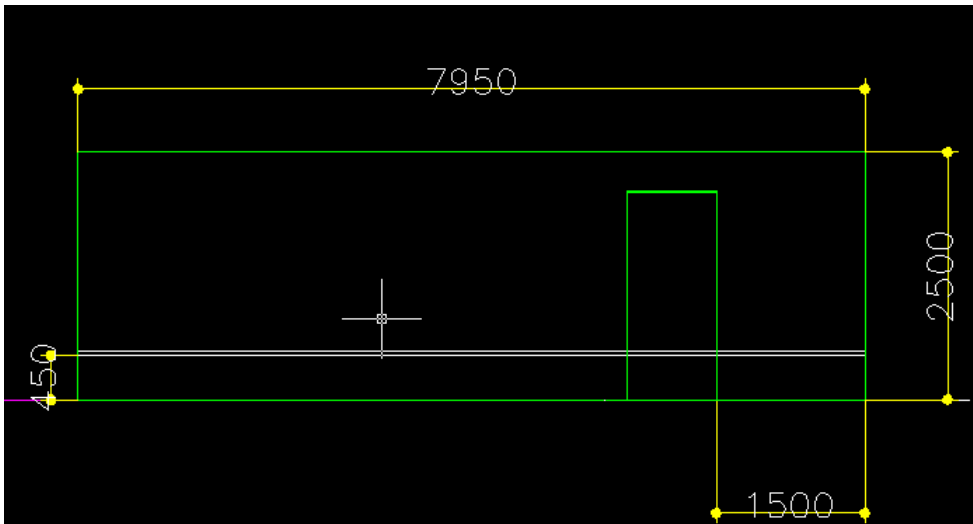
d. Click in the gap between the two rectangles.



6.3 Create decorative bar

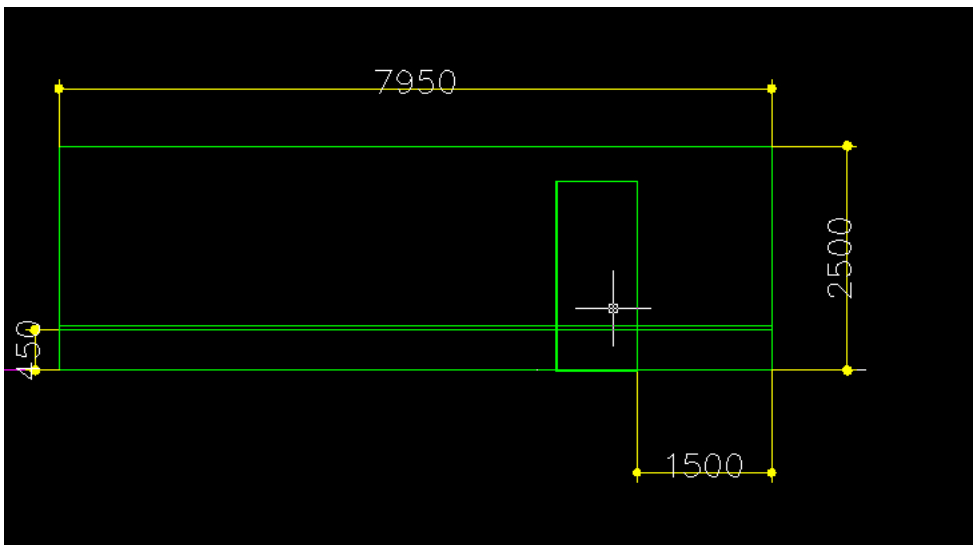
6.3.1 Draw decorative bar shape

a. decorative bar size 7950*50 , 450mm to the bottom



6.3.2 Use wood panel to extrude the bar shape.

The board thickness is 20mm.

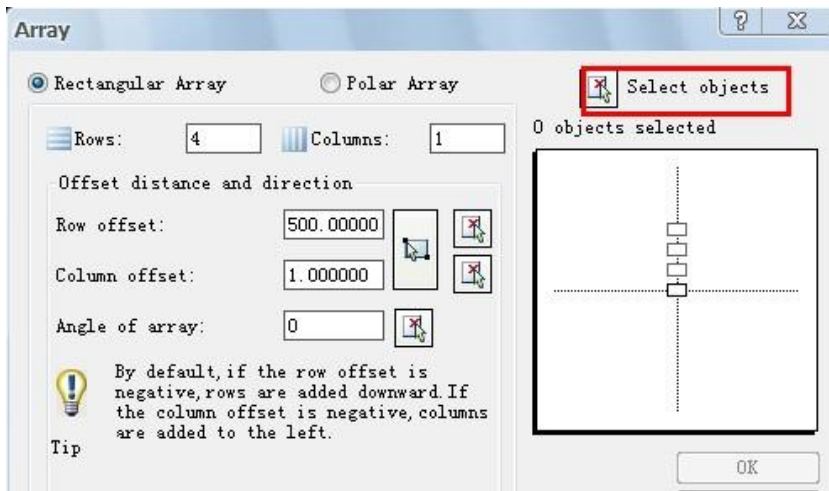


6.3.3 Use array function to copy decorative bar

a.click array function

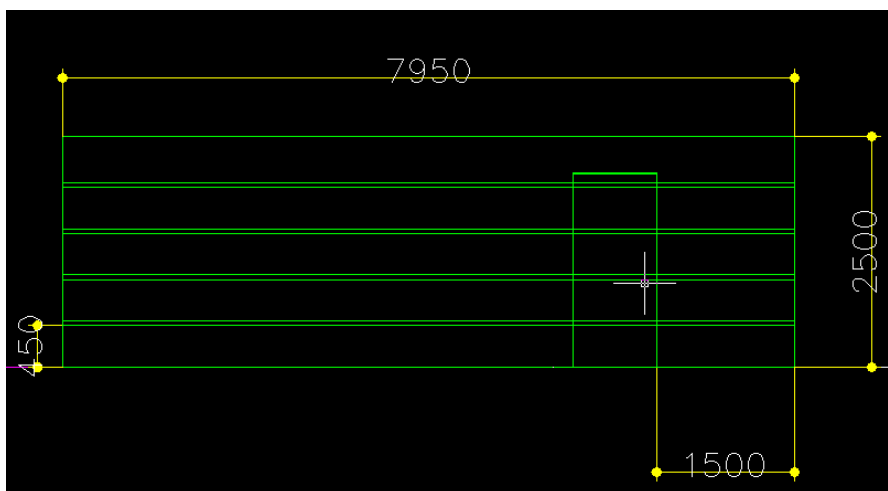
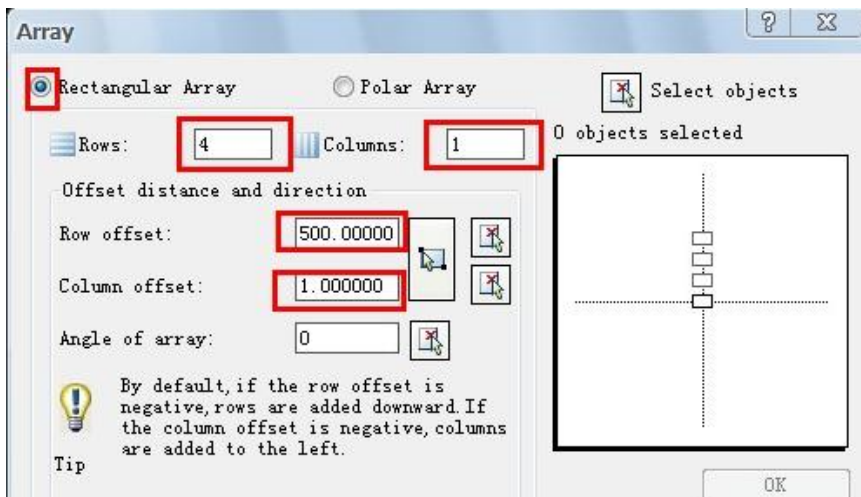


b.Click the Select objects. click the bar

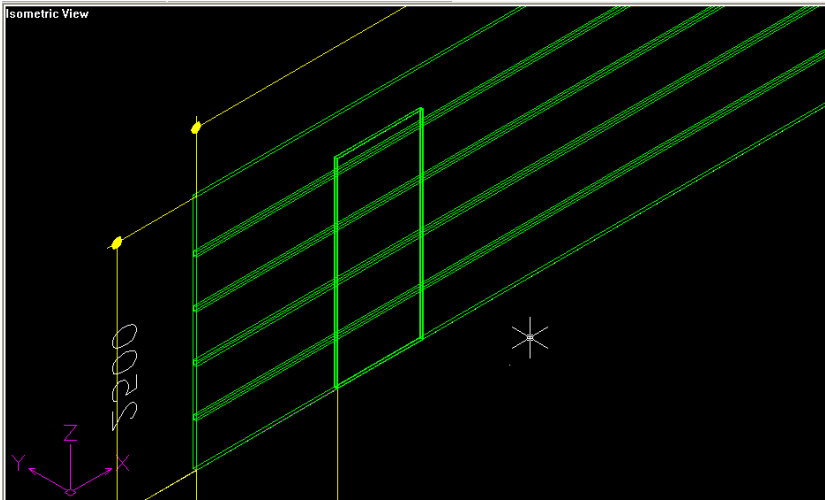


c. tick Rectangular Array.

d.set as following.

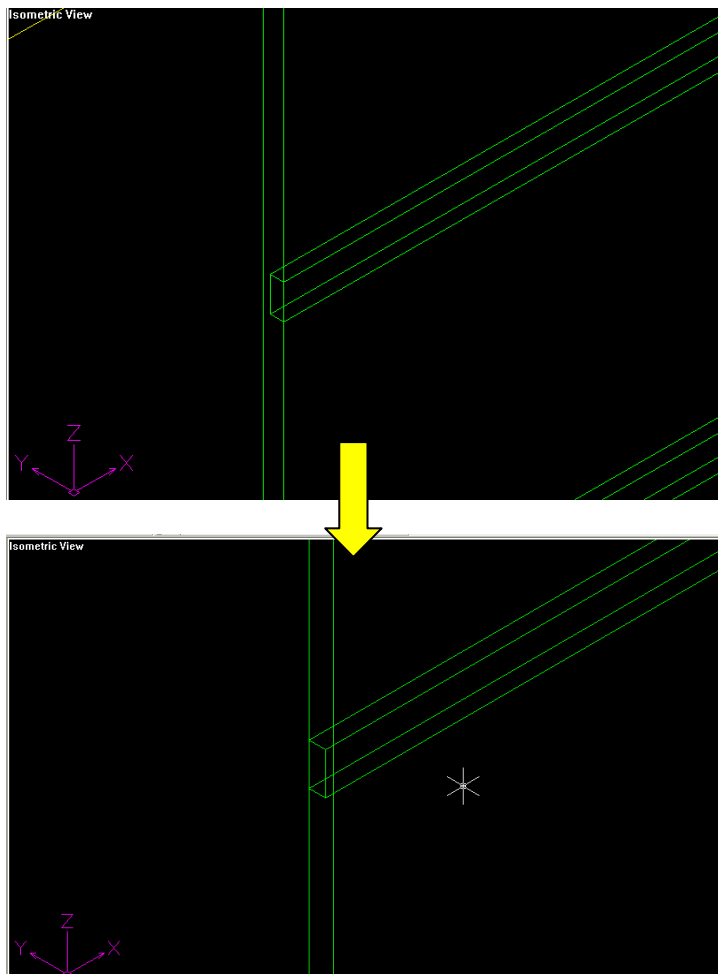


Back to isometric view, the structure will be like this.

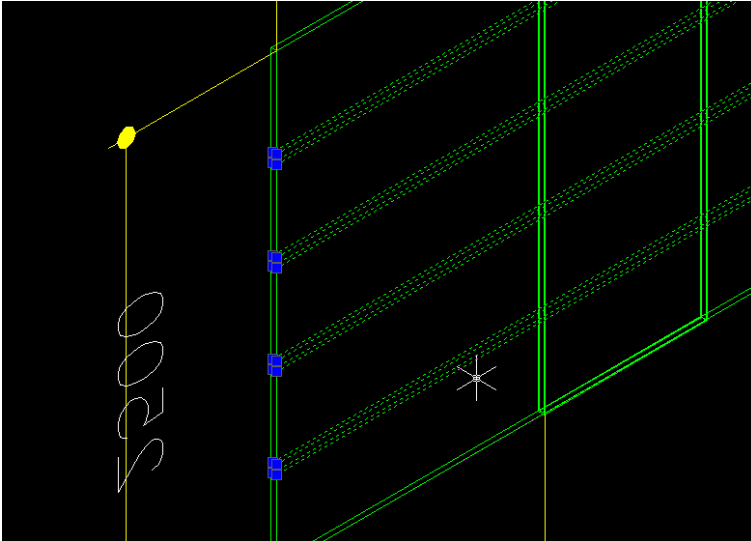


6.3.4 Move the decorative bars

The four bars needs to be move to the front side of the board from the back side.



a.select the four bars in isometric view



b. then enter command **m**

c.enter @0,0,0

d.enter to confirm

e.enter @0,10,0

f. enter to confirm

6.4.extract the door and four bars from the back board

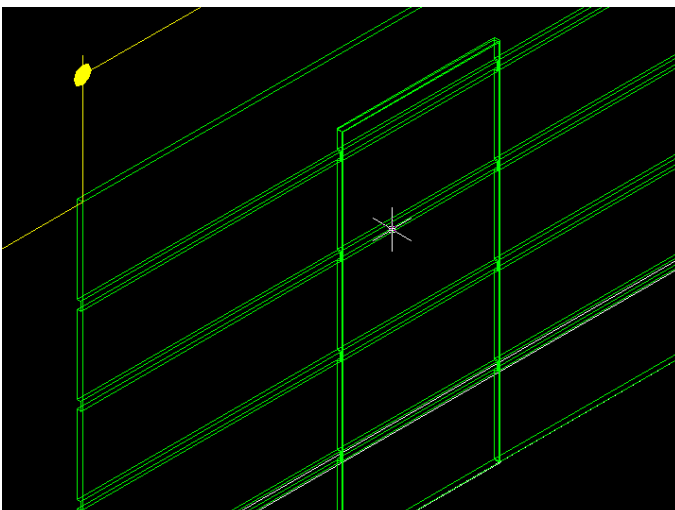
a.Click the second function subtract on the bar.



b.click the back board , enter.

c.select the four bars and the door shape. right click to confirm

The door and bars have been subtracted from the board.

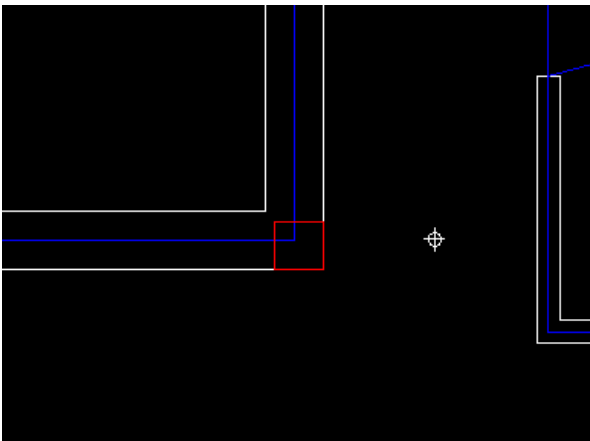


Step 7: Wall hole



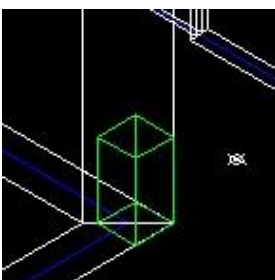
7.1 Create the first cuboid

a. Draw a 250*250 rectangle on the floor.

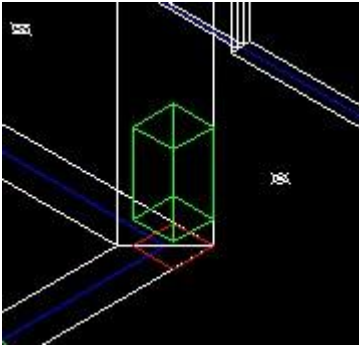


b. Use wood panel to extrude the shape.

The thickness is 500mm

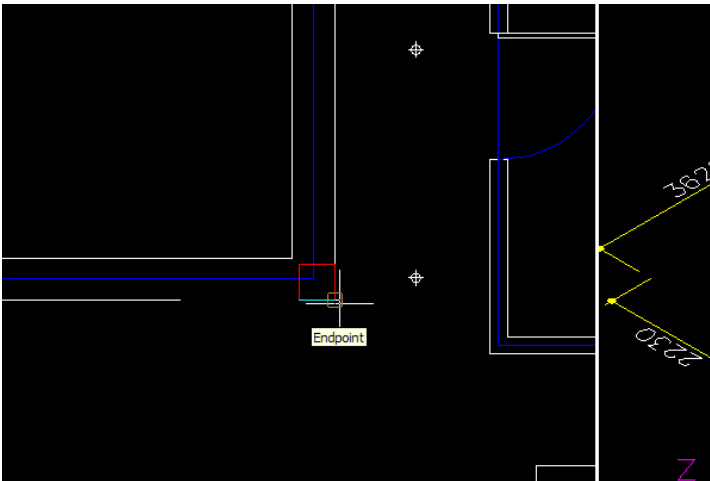


c. Move it up to 150mm above floor

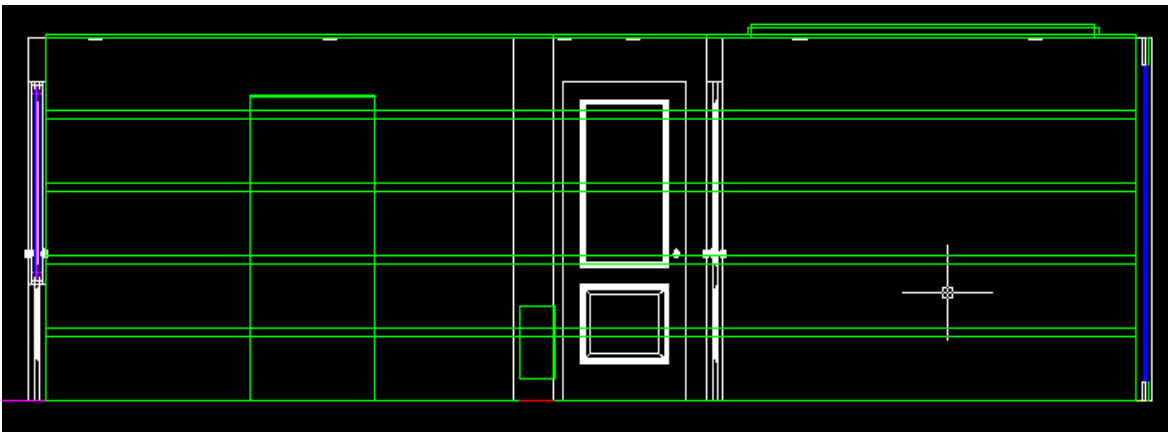


7.2 Use array function to copy the cuboid along the wall.

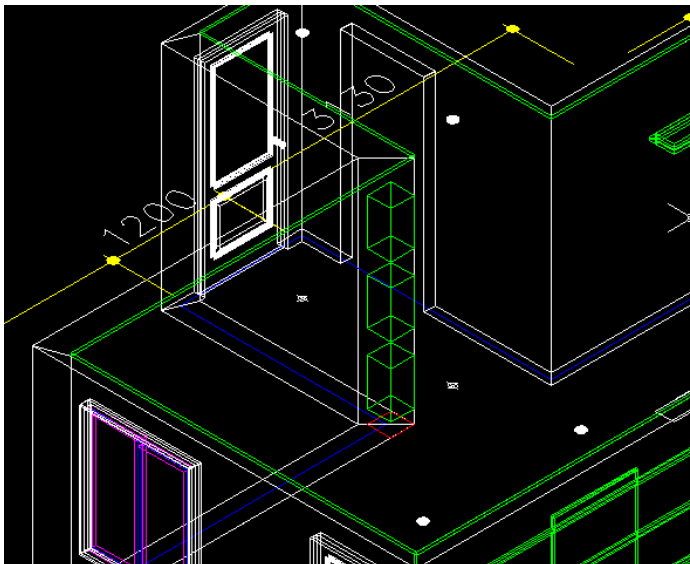
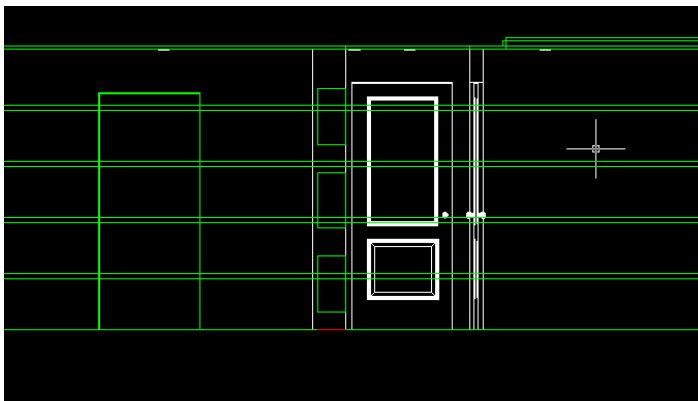
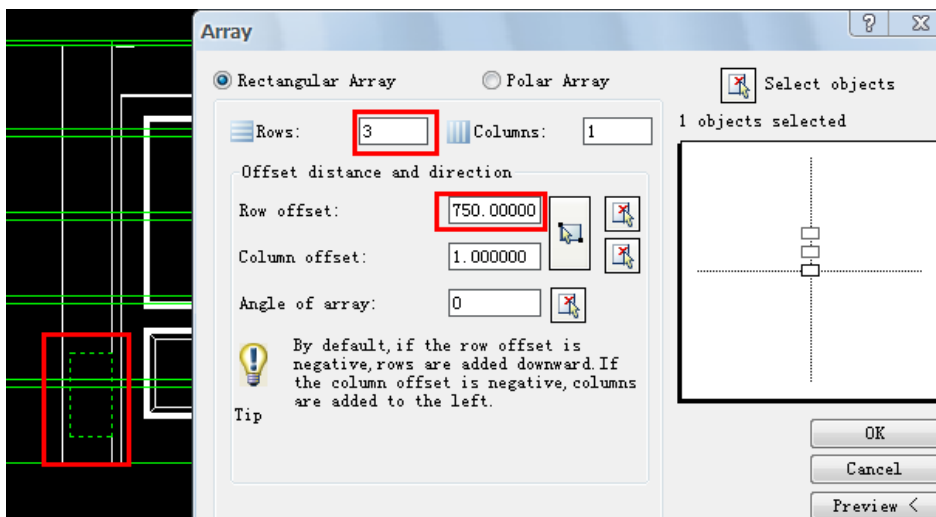
a. Before use array function. It needs to set UCS on the wall.



b. Pick the inner room side, and then click in isometric viewpoint.



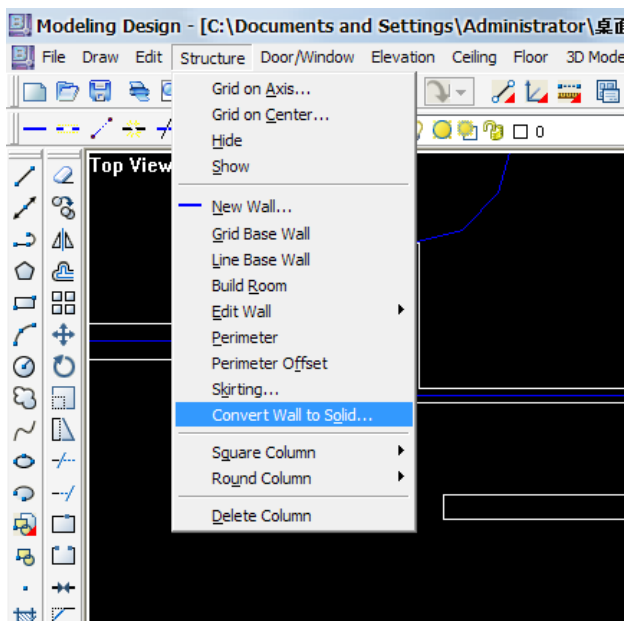
C.set parameter



7.3 Subtract the cuboids from the wall

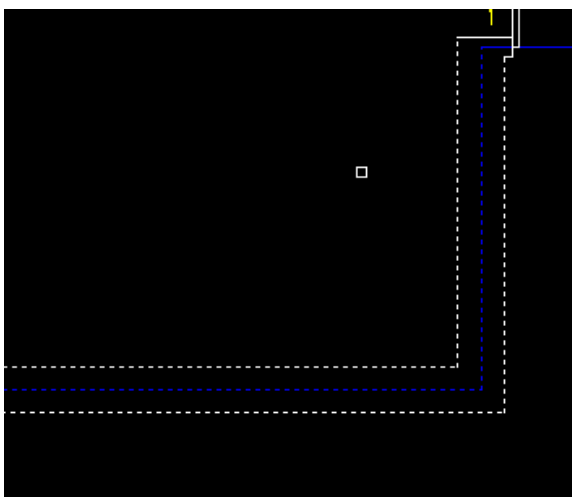
7.3.1 Convert wall to Solid

a.structure->convert wall to Solid

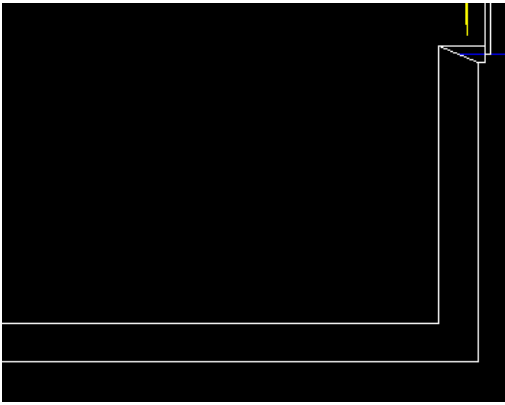


b. Click OK.

select the two thick walls. Right click to confirm



Then you can see it has been changed into solid.



7.3.2 use subtract function to subtract the cuboids from the wall

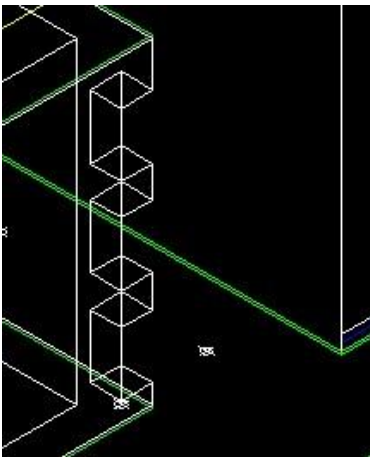
a. Click the second function **subtract** on the bar.



b. select the two walls , enter to confirm.

c. select the three boxes. Then right click.

The three cuboids will be subtracted

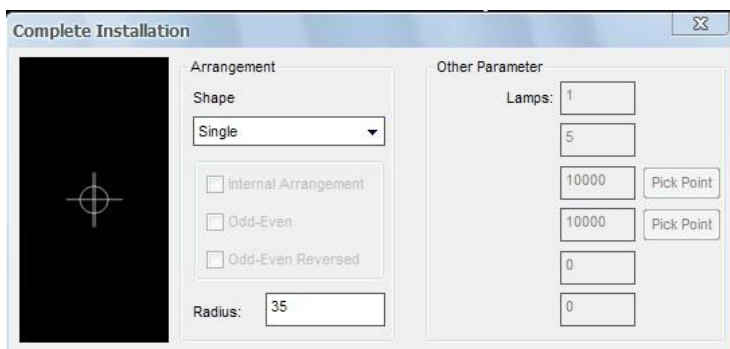
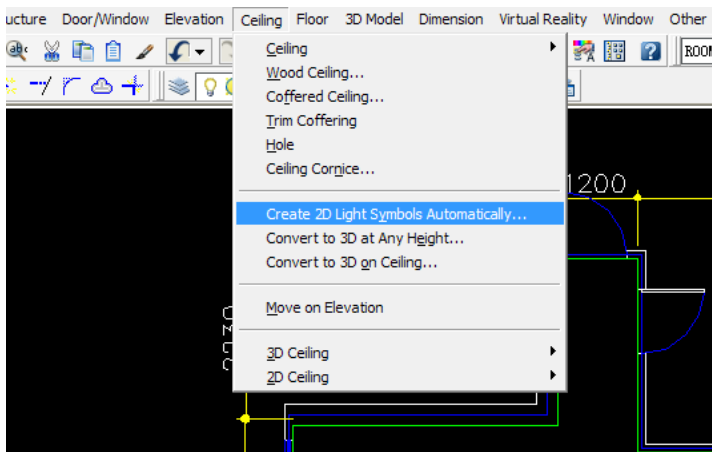


Step 8: Wall hole light

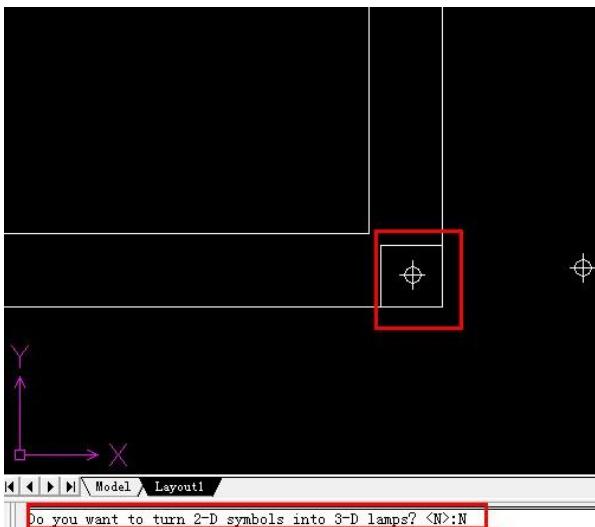


8.1 Create the first down light

a. Create 2D light Symbols automatically

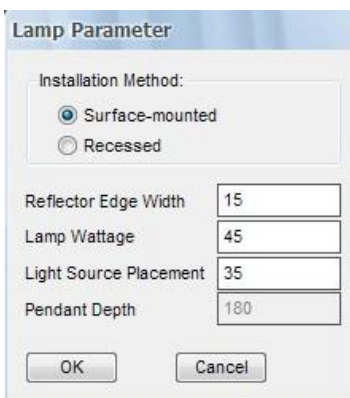
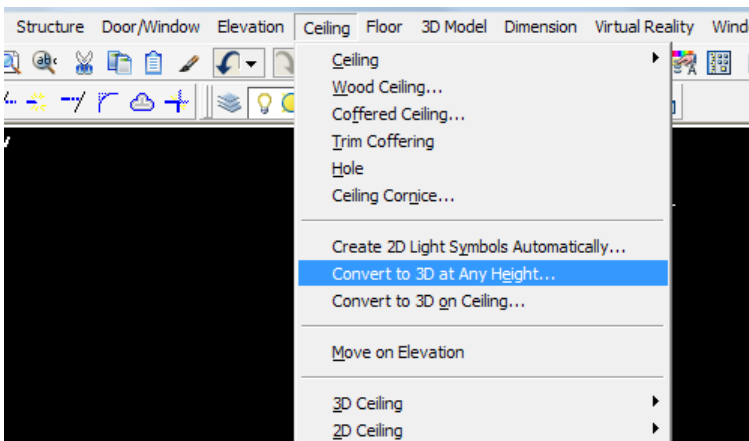


b. one click to install the light, enter N.



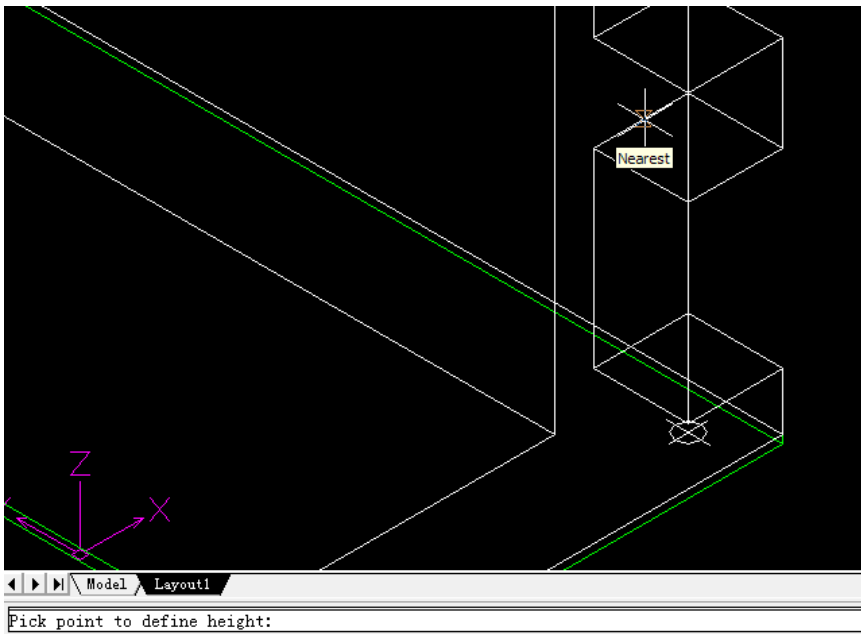
8.2 Use Convert to 3D at any height

a. Ceiling-> Convert to 3D at any height



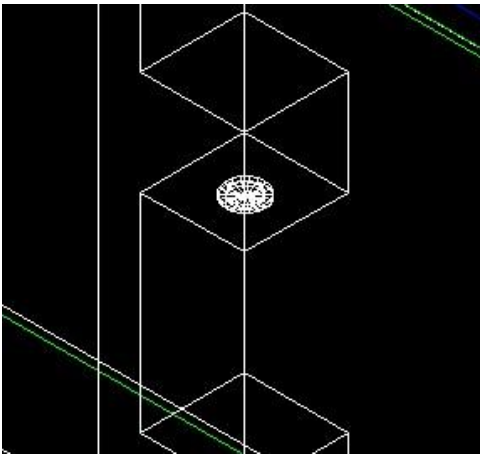
b. Select the position to install the light

Click on the side of the first hole by using **Snap: Nearest to pick the point**,

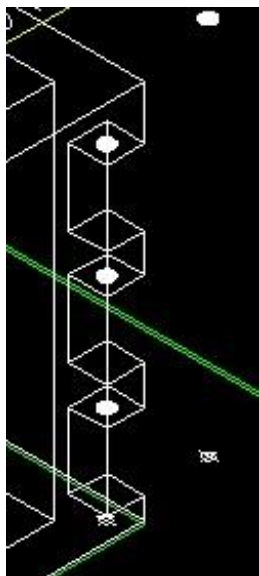


C. select the light.

Then it will generate the light at that height.



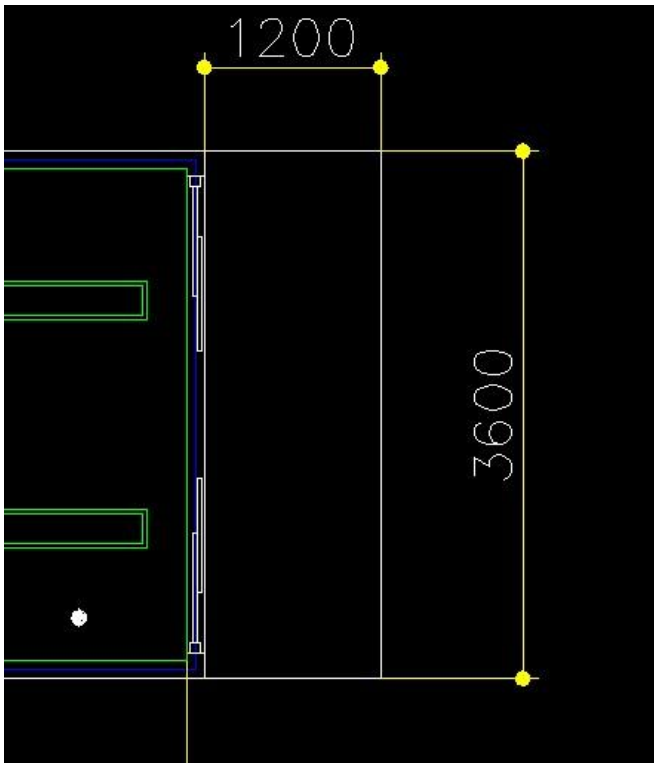
8.3 Make the other two lights in the same way.



Step 9: Balcony

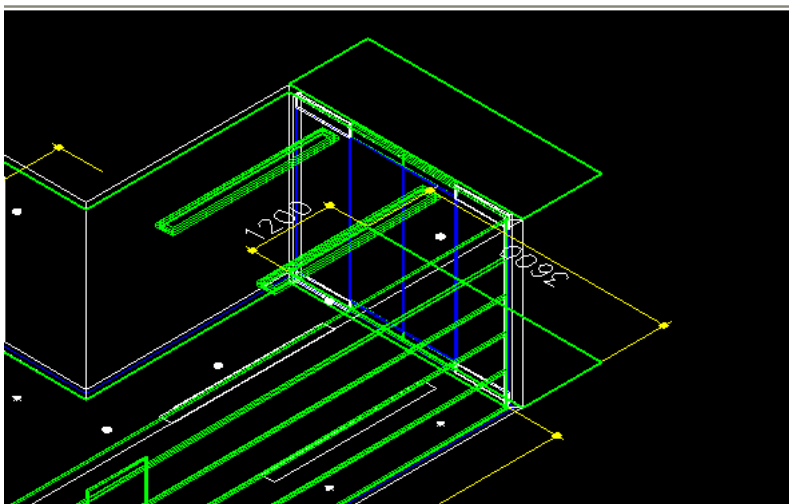
9.1 Draw the rectangle shape

a. Build a 1200*3600 rectangle

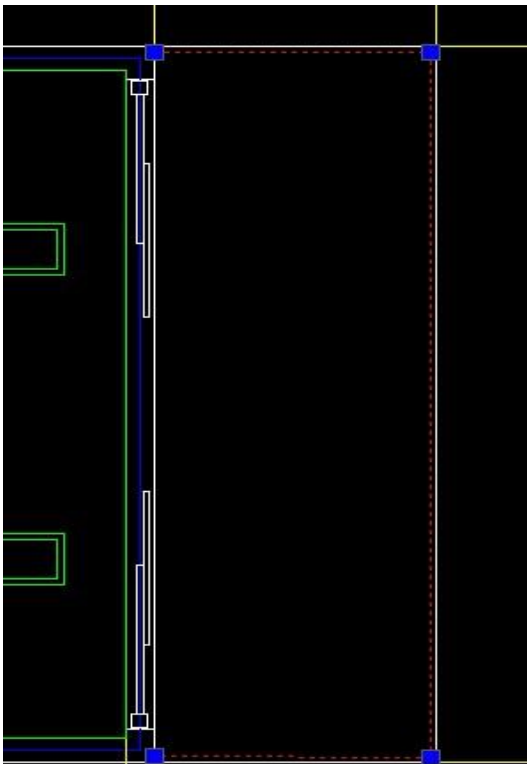


b. Build the balcony floor : Thickness -20mm

c. Create balcony ceiling : Height 2500mm thickness 20 mm

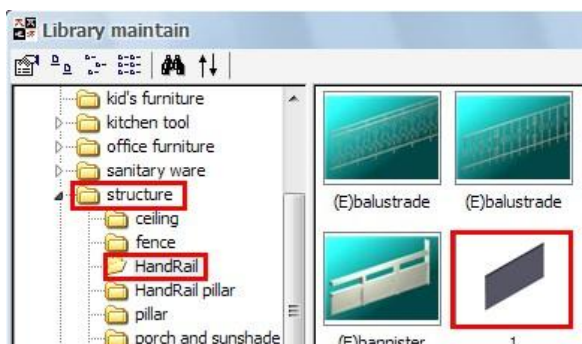


d. Use polyline function to draw a polyline like the red line below.

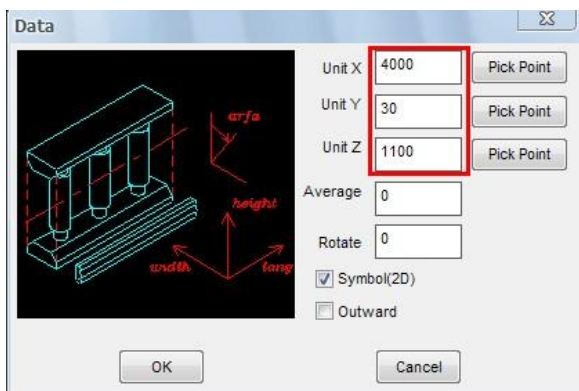


9.2 Create the hand rail

A. 3Dmodel-> showlib->Structure ->handrail

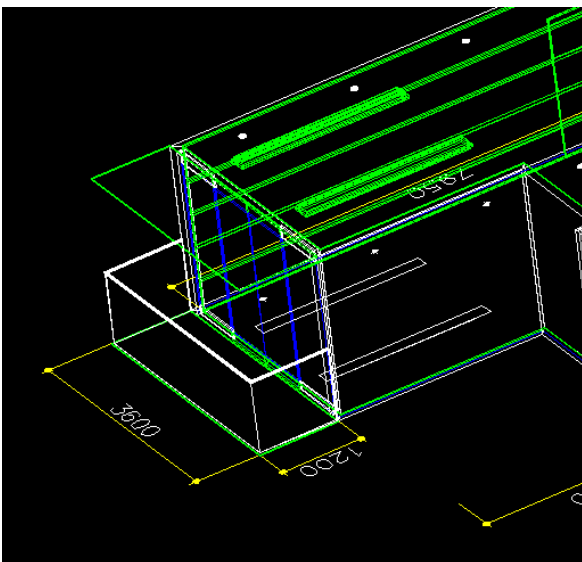
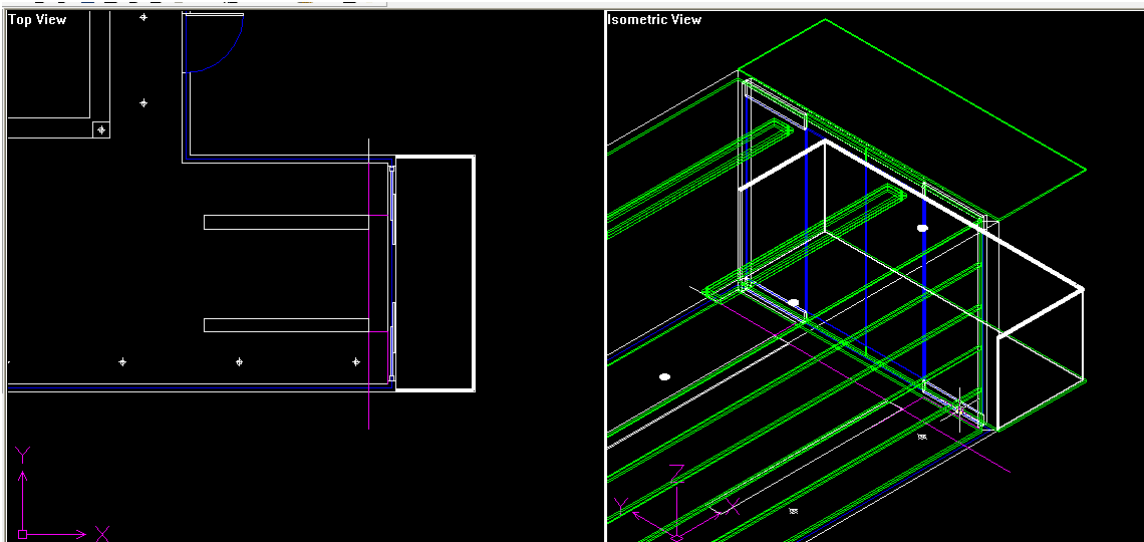


B.set parameter



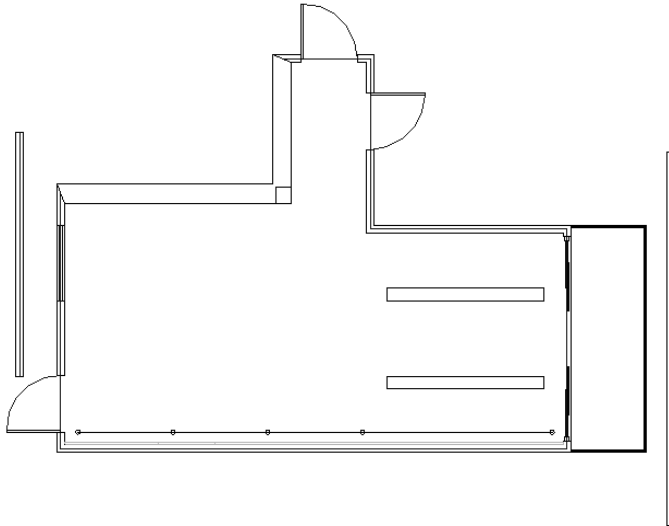
c.click on the polyline.

The balcony hand rail will be installed.



Step 10: Sunlight

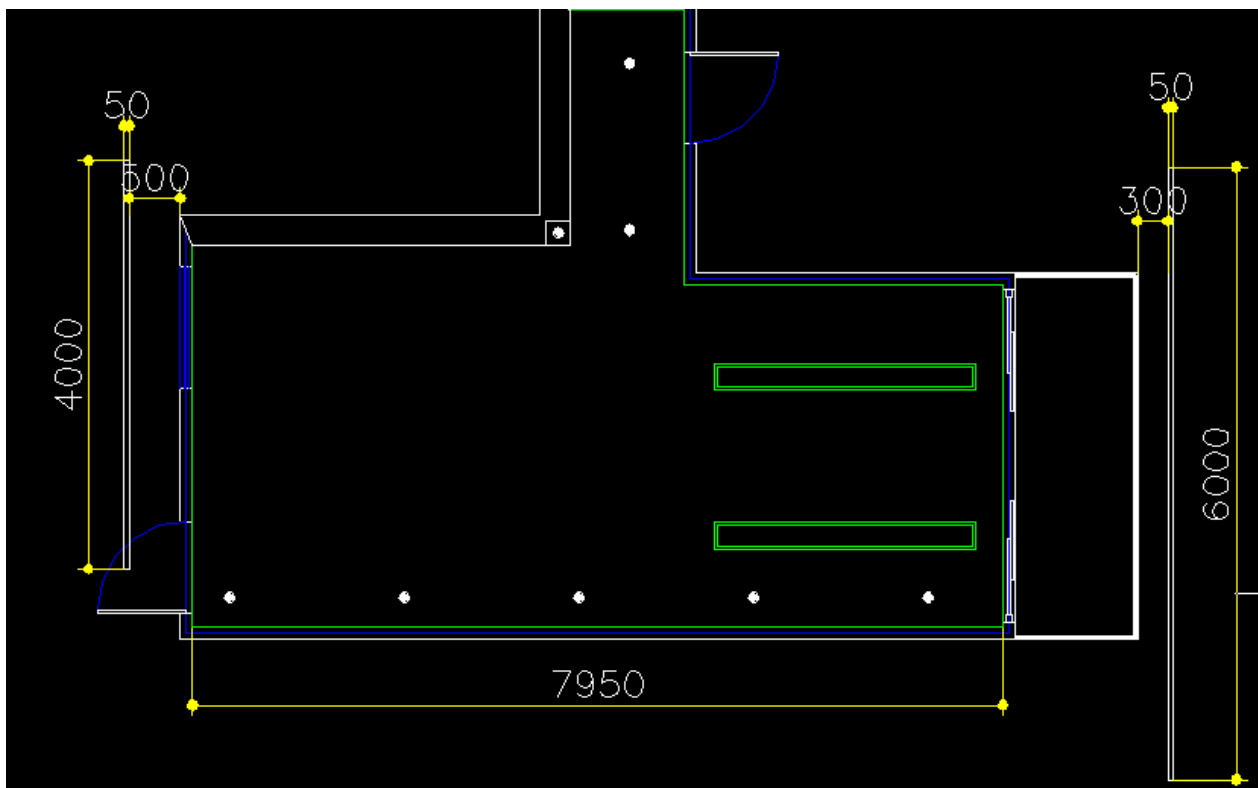
We will use two boards as light source to simulate sunlight



10.1 Draw two rectangles as below.

Left side board: 4000*50 500 to the wall

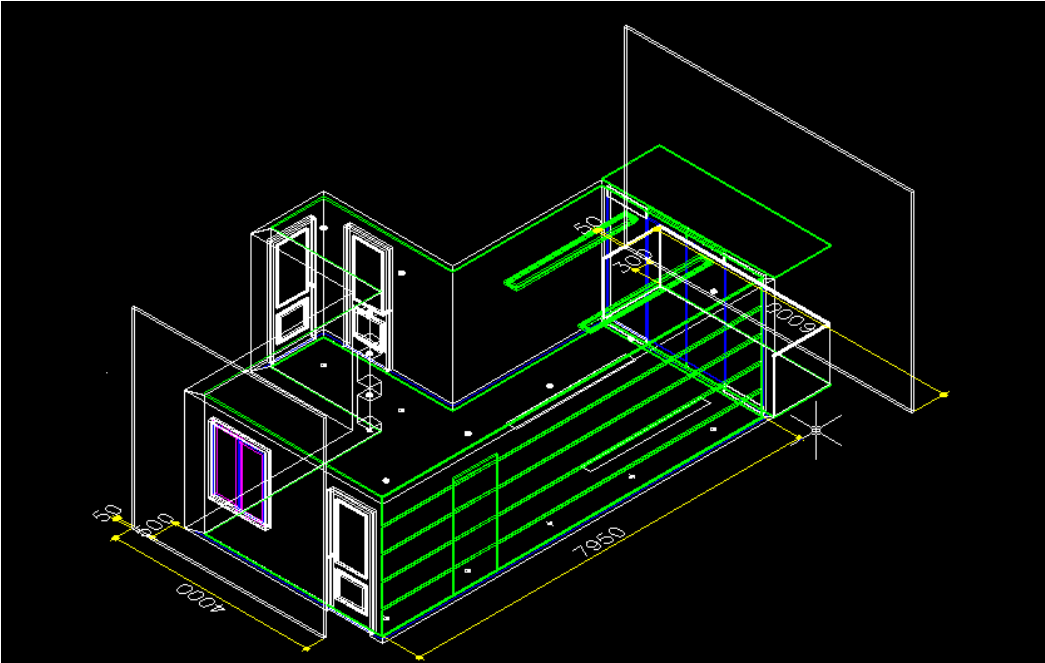
Right side board: 6000*50 300 to the balcony



10.2 Use command **ext** to extrude the rectangle

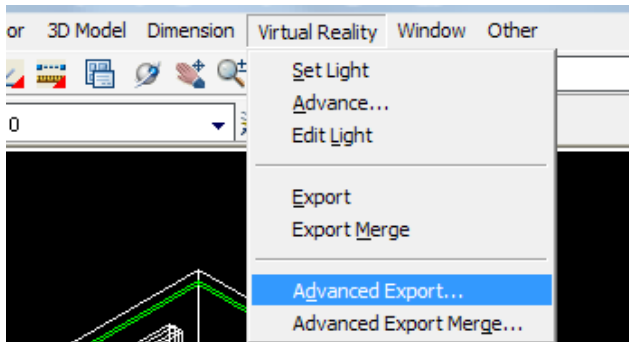
- Enter ext
- Click on the rectangle , right click to confirm
- Enter 4000
- enter twice to confirm

Create these two boards in this way.

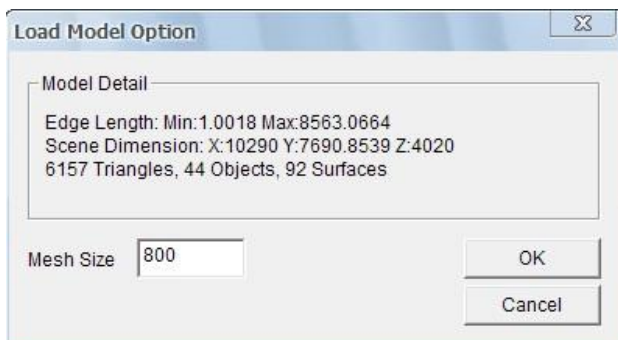
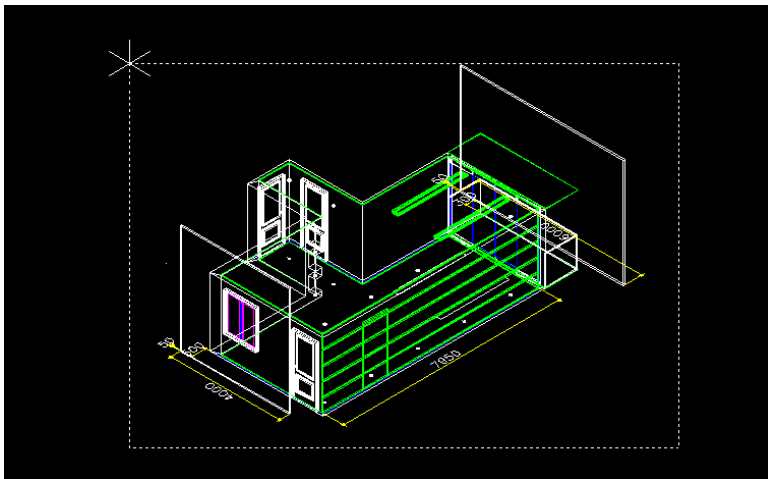


Step 11: Export to VR

A.virtual reality->advanced export



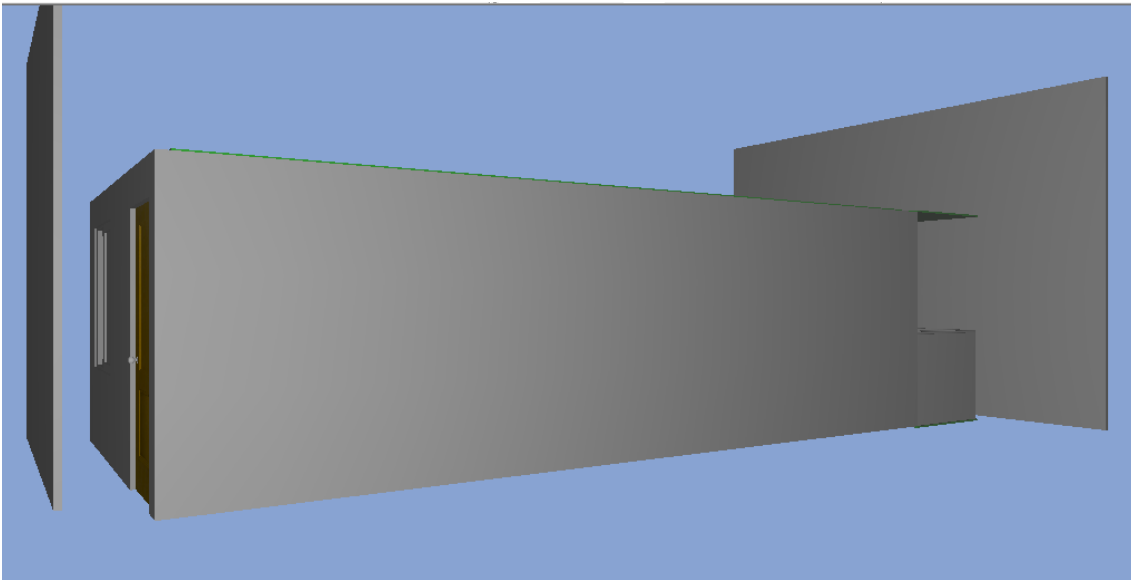
b.Select all the objects in the scene,right click to confirm



c.Click OK.

Modeling will transfer to VR

View from outside of the room



Enter room

