

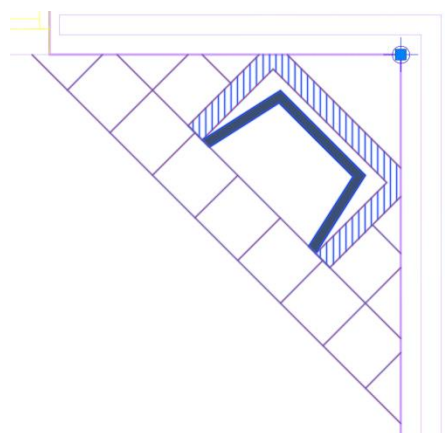
## Exercise no 9

**New commands and operations:** WBLOCK, INSERT, BEDIT, BSAVEAS, block with attributes, dynamic block

### 9.1. Definition and block insertion

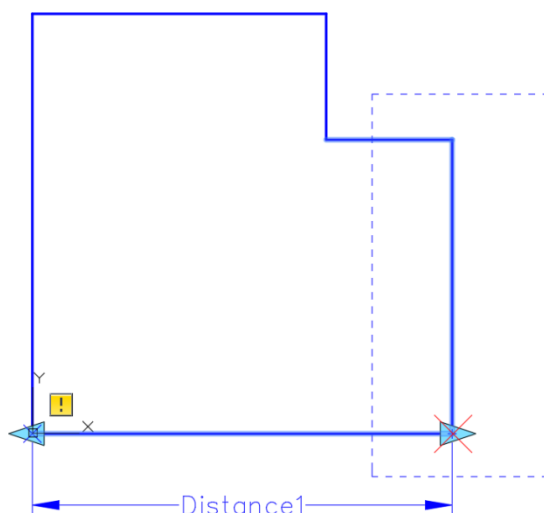
Open the file named OFFICE.DWG. Using WBLOCK command save the drawing of the fireplace on the computer. Set OBJECTS as SOURCE. Set the upper right inner corner of the walls as BASE POINT. Set all elements of the fireplace with tiles as objects. Save the file under the name FIREPLACE.DWG.

Using INSERT command insert a block containing fireplace in the upper left room. Close the drawing of the office without saving.



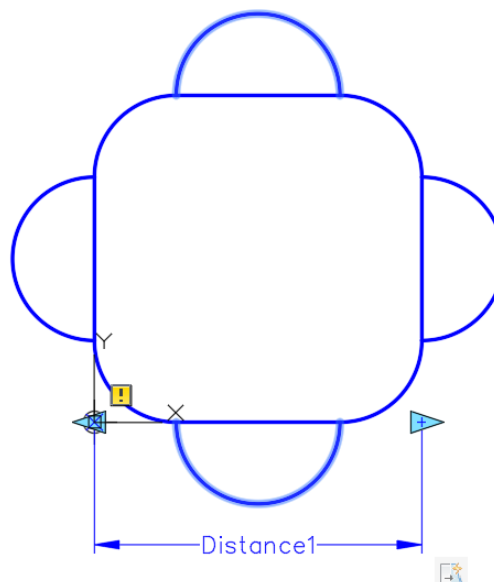
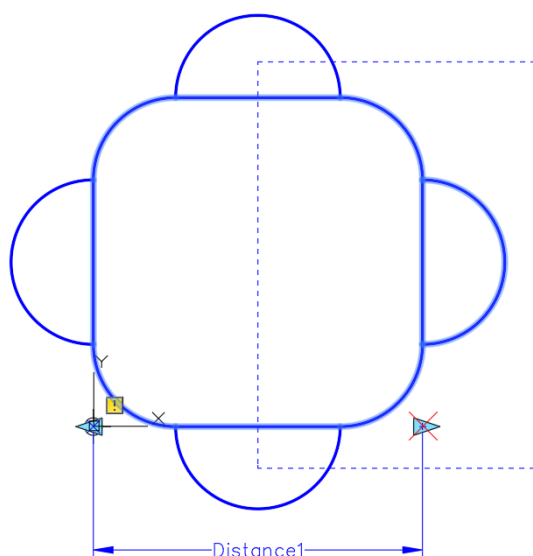
### 9.2. Dynamic block - L shaped table

Open the file named L-TABLE.DWG. Using BEDIT command open block editor selecting: <CURRENT DRAWING>. Define BASEPOINT in origin of the coordinate system. For bottom and left edge define the linear parameter (from the left to the right and from the bottom to the top). For both parameters, define the stretching operations as in the figure at right. Set DIST TYPE to INCREMENT every 10 units between 70 and 250 units in parameter properties. Set NUMBER OF GRIPS to 1. Using BTESTBLOCK command test the dynamic block. Finally save the block in file L-table\_block.dwg using BSAVEAS with selected option SAVE BLOCK DEFINITION TO DRAWING FILE.



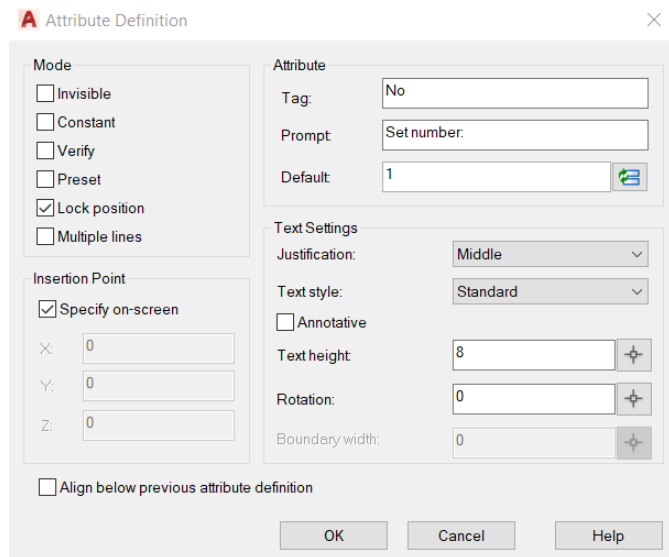
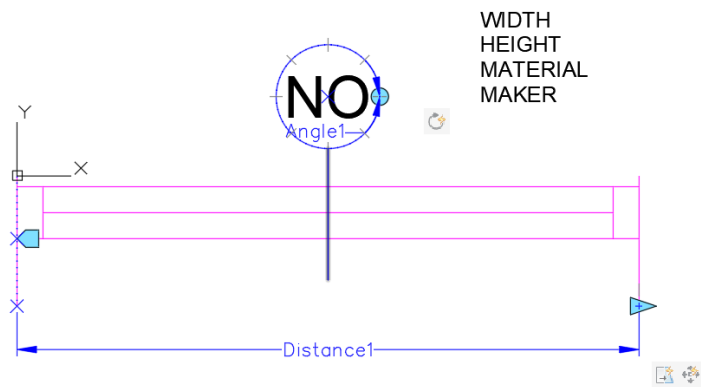
### 9.3. Dynamic block – conference table

Open file named CONF\_TABLE.DWG in block editor. Define BASEPOINT in the origin of the coordinate system. For bottom and left edge define the linear parameter (from the left to the right and from the bottom to the top, active SNAP MODE is suggested). For both parameters, define the STRETCHING operations as in the figure at left below and ARRAY with a distance of 80 as shown in the figure at right). Parameters should change between 80 and 400 units in increments of 80 units. Set NUMBER OF GRIPS to 1. Using BTESTBLOCK command test the dynamic block. Finally save the block in file conf\_table\_block.dwg using BSAVEAS with selected option SAVE BLOCK DEFINITION TO DRAWING FILE.



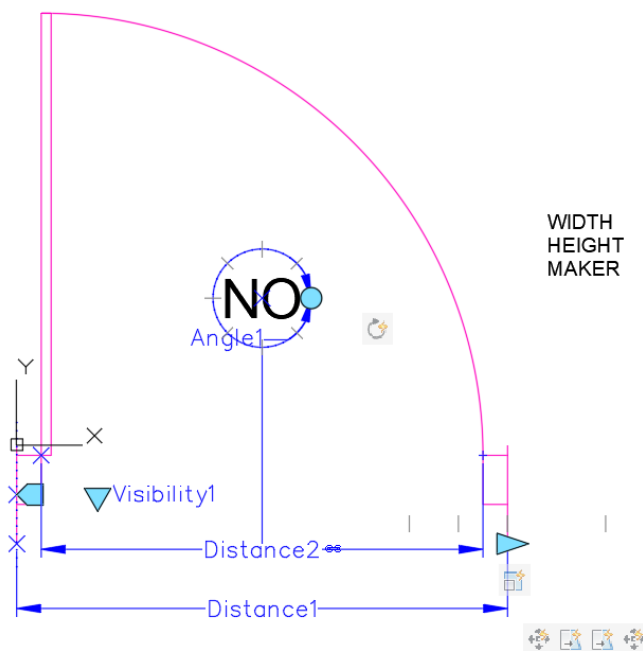
### 9.4. Dynamic block - window

Open the file named WINDOW.DWG in block editor. Use ATTDEF (ATT) command to define attributes as in the figure at right Attributes: NO, WIDTH, HEIGHT, MATERIAL, MAKER. For the first attribute set justify to MIDDLE, text height to 8. For the second attribute check INVISIBLE in mode, set justification to LEFT, and text height to 3. Define the other attributes with the option ALIGN BELOW PREVIOUS ATTRIBUTE DEFINITION checked. Define BASEPOINT in the origin of the coordinate system. Define ALIGNMENT parameter at the left edge of the window. For the attribute NO define the parameter ROTATION and the action ROTATE. Angular values should change in increments of 45 degrees. Define the linear parameter along the window width. In the properties set NUMBER OF GRIPS to 1 and change VALUE SET from 120 to 180 in increments of 30 units. For this parameter define the action STRETCH for objects belonging to the right window frame and MOVE for objects related to the window description. After selecting the action symbol MOVE set the DISTANCE MULTIPLIER in the preferences of linear parameter to 0.5. Using BTESTBLOCK command test the dynamic block. Save the block to drawing file named WINDOW\_BLOCK.DWG.



### 9.5. Dynamic block – door

Open the file named DOOR.DWG in block editor. In the same way as in item 9.4 define the attributes: NO, WIDTH, HEIGHT, MAKER, add parameter ROTATION and action ROTATE for attribute NO, define BASEPOINT and parameter ALIGNMENT. Define two linear parameters as shown in the figure. For the outer, lower linear parameter, assign the MOVE operation for objects belonging to the right part of the frame and the right panel. For this parameter assign the STRETCH action as well., Select the upper part of the drawing as a stretch frame and lines belonging to the panel and lines entirely contained within the stretch frame as the objects. After selecting the STRETCH sign of action set ANGLE OFFSET to 90 in its parametric properties. For the internal, upper linear parameter set the parameter SCALE for two arc objects. In the properties of internal linear parameter set CHAIN ACTIONS to YES and NUMBER OF GRIPS to 0. For external linear parameter define the STRETCH action with selected stretching object as internal linear parameter. Define the action MOVE for objects related to the window description as in item 9.4. In the properties of external linear parameter set the NUMBER OF GRIPS to 1 and set DIST TYPE to LIST and add distance values of 80, 90, 120. Define parameter VISIBILITY and add 2 visibility states L and R. Then, make appropriate lines invisible for these states. Using BTESTBLOCK command test the dynamic block. Save the block to drawing file named DOOR\_BLOCK.DWG.



### 9.6. Dynamic block – double doors

Open the file named DOOR2.DWG in block editor. Define the attributes: NO, WIDTH, HEIGHT, MAKER, in the same way as in the item 9.5 add parameter ROTATION and action ROTATE for attribute NO, define BASEPOINT and parameter ALIGNMENT. Using BTESTBLOCK command test the dynamic block. Save the block to drawing file named DOOR2\_BLOCK.DWG.