PRACTICE TABLE

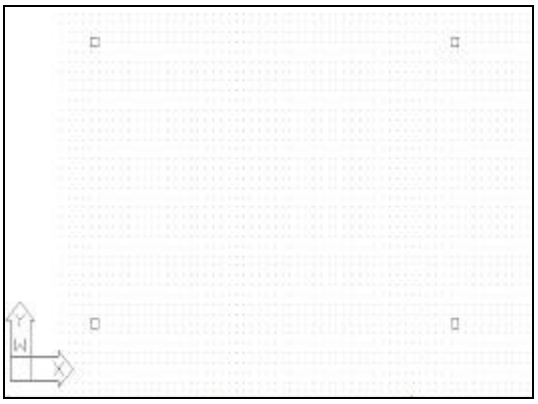


Figure. 1 Table Legs Drawn with THICKNESS

Using a THICKNESS Setting to Extrude a 2D Entity

Command: **LAYER**	Set TABLE current and SCRATCH off.
Command: **ZOOM**	Zoom All.
Command: **SETVAR** Variable name or ?: **THICKNESS** New value for THICKNESS <0>: 600	
Command: **COLOR**	Set color to yellow.
Command: **LINE**	Draw a 24 mm square with the lower left comer at 96,180.
Command: **POLYGON**	Draw a 4-sided polygon at 1236,192 circumscribed about a 12 mm radius circle.
Command: **COPY**	Copy the 2 legs up 696 mm.

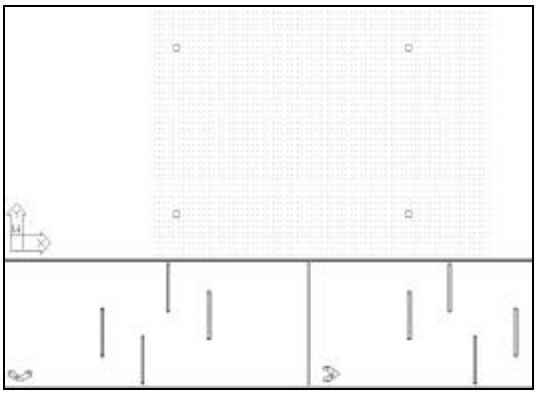


Figure. 2

Using VPORTS to set three viewports

Command: **VPORTS** Three:Above

Click in the bottom right viewport to make it active.
Command: **VPOINT** Set VPOINT to -1,-1,-0.4.
Click in the bottom 1eft viewport to make it active.
Command: **VPOINT** Set VPOINT to 1,1,0.3.
Command: **ZOOM** Magnify each view as much as possib1e.
Command: **PAN** Center the plan view.
Command: **VPORTS** Save viewports as TABLE.

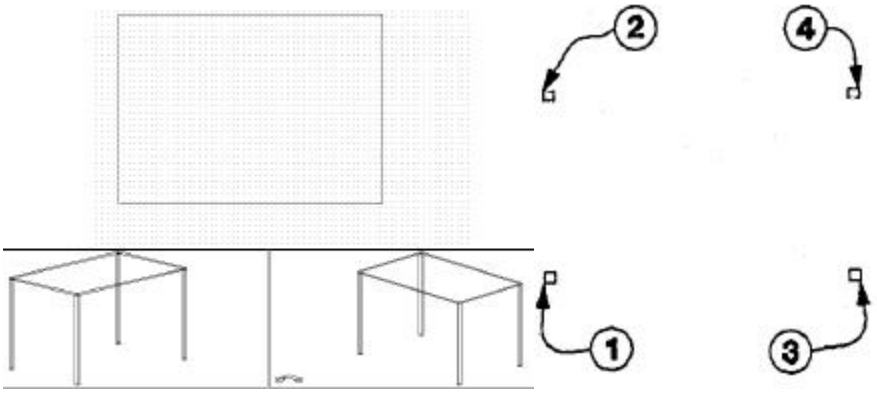


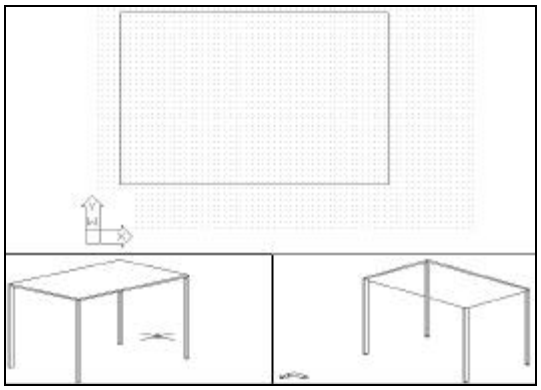
Figure. 3 Table top added with solid

Using SOLID and XYZ filters to make 3d Table Top

Click in the top viewport to make it active.

Command: **SETVAR** Set THICKNESS to 12.
Command: **OSNAP** Set to ENDPoint.
Command: **SOLID**
First point: **.XY** Use xyz filters for first pronto
of Pick comer of leg at (1)
(need Z): **600** Type in Z value.
Second point: Pick corner of le2 at (2)
Third point: Pick corner of leg at (3)
Fourth point: Pick corner of leg at (4)
Th1rd point: **<RETURN>**

Command: **OSNAP** Set to None.



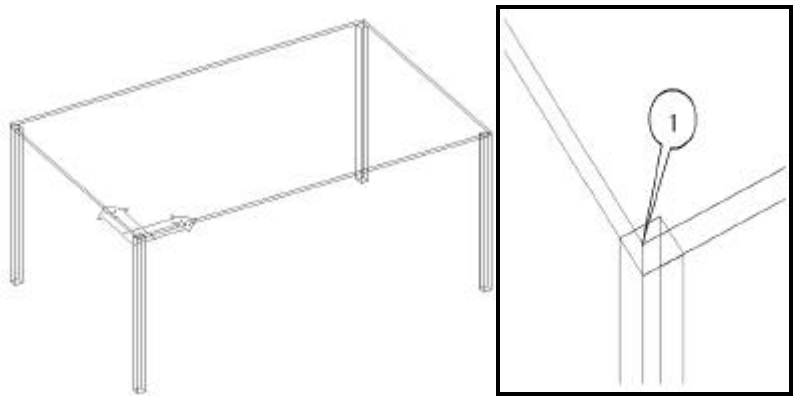
Using Hide Remove Hidden Lines in the Table

Click in the bottom left viewport to make it active.
Command: **HIDE** Regeneratingdrawinf.Removing hidden lines:25

Make the bottom right viewport active. -
Command: **HIDE** Regeneratingdrawinf.Removing hidden lines:25

Using HIDE With a Hidden Layer

Make the bottom left viewport active.
Command: **LAYER** Create a new layer named HIDDENTABLE with color of your choice, but don't set it current.
Command: **HIDE** Hidden lines are placed on HIDDENTABLE layer.



Defining and Saving a UCS at the Table Top

Make top viewport active.
Command: **VPORTS** Set viewports to Single.

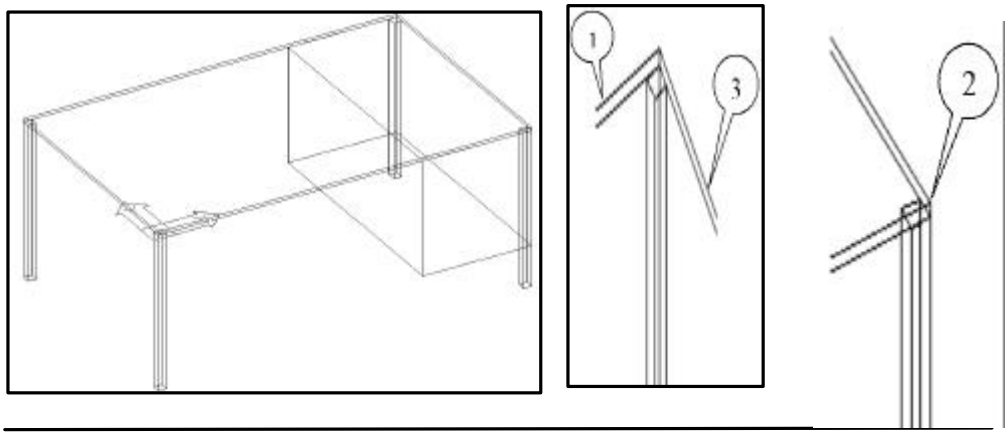
Command: **UCSICON** Make sure UCSICON is set to origin
ON/OFF/All/Noorigin/ORigin <ON>:**OR** Set UCS icon to origin

Command: **VPOINT**
Rotate/<View point> <0,0,1>: **R**
Enter ang1e in X,Y p1ane from X axis <270.00>: **240**
Enter angle from X,Y plane <90.00>: **35**

Command: **ZOOM** Fill screen with the whole image.

Command: **VIEW** Save view as 3D.

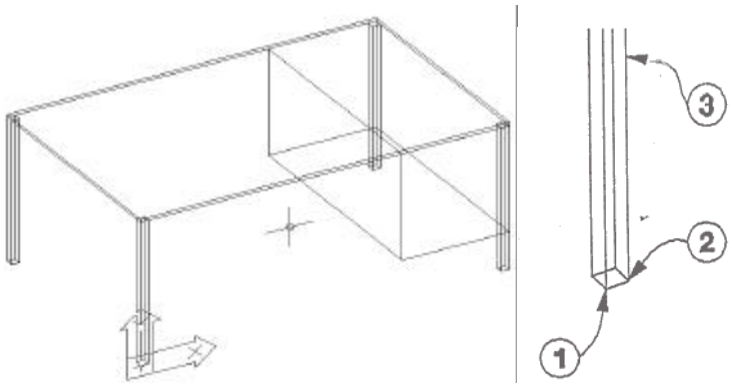
Command: **UCS** Type or select UCS.
Origin/ZAxis/3polnt/Entity/View/X/Y/Z/Prev/Restore/save/De1/?/<World>: **O**
Origin point <0, 0, 0>: Use ENDPoint to pick the top corner of the table at (1)
Command: **UCS** Save UCS as TOP.
Origin/ZAxis/3point/Entlty/View/X/Y/Z/Prev/Restore/save/De1/?/<World>: **S**
?/Name of UCS: **TOP.**



Drawing the Cabinet

Command: **SETVAR** Set a negative THICKNESS -444 mm.
Command: **COLOR** Set color to cyan.
Command: **SOLID**
First point: **816, 0, -12** Establishes the upper left front comer of cabinet.
Second point: **.X** Use point filters to pick the left back corner
of @ Use the X value of the last point.
(need y): **NEA** Use NEAr to pick a point on the back of the table.

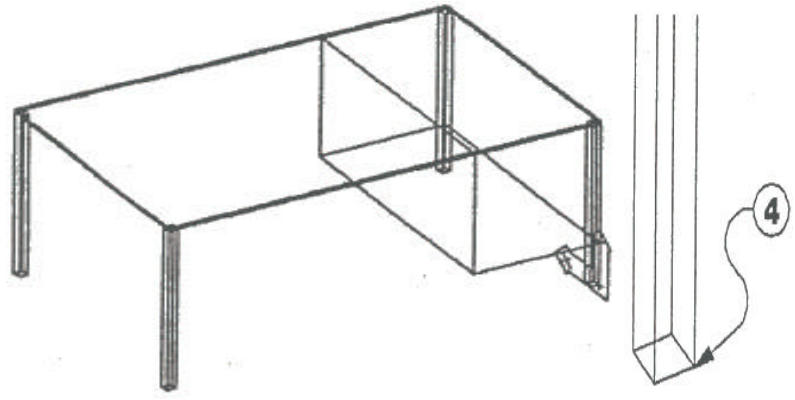
to Pick any point on line at (1).
Third point: **ENDP** Use ENDPoint w select the right front comer of the table.
of Pick any point on line at (2).
Fourth point: **ENDP** Use ENDPoint w select the right rear comer of the table.
of Pick any point on line at (3).
Third point: **<RETURN>**



Using 3point to Create a Front UCS

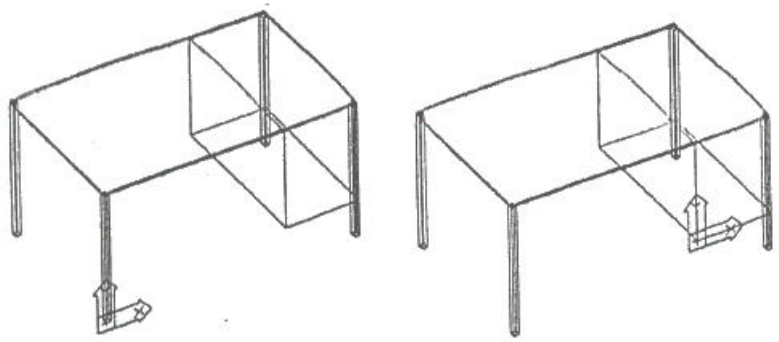
Command: **UCS** Create the front UCS with 3point.
Origin/ZAxis/3point/Entity/View/X/Y/Z/Prev/Restore/Save/Del/?/<Wor1d>: **3P**
Origin point <0, 0,0>: Use Osnap INTersection to pick point (1).
Point on positive portion of the X-axis <1,0,-612>:
Use Osnap INTersection to pick point (2).
Point on positive-Y portion of the UCS X,Y p1ane <0,1,-612>:
Use Osnap MlDpoint to pick point (3).

Command: **UCS** UCS as FRONT



Using ZAxis to Create Right Side UCS

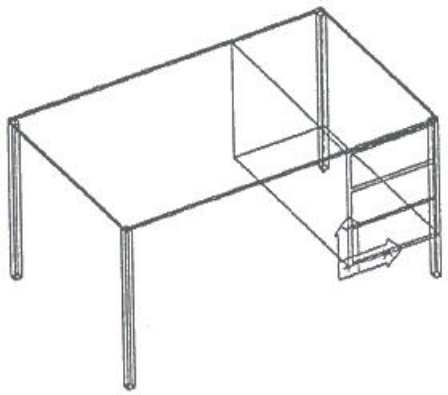
Command: **UCS** Create the right side UCS with ZAxis
Origin/ZAxis/3point/Entity/View/X/Y/Z/Prev/Restore/Save/Del/?/<World>: **ZA**
Origin point <0, 0, 0>: Use INTersection to pick @ at the right front leg
Point on positive portion of Z-axis <1152,0,1>:
Pick any point at exactly O degrees (@24<O).
Command: **UCS** Save the UCS as R-SIDE.



Using UCS to Add Drawers to the TabIe

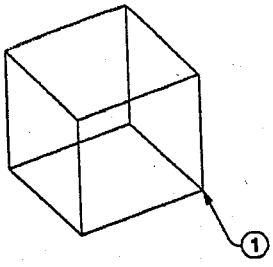
Command: **COLOR** Set color to red.
Command: **UCS** Restore the FRONT UCS.
Command: **UCS** Move the UCS to the lower left comer of cabinet with Origin.
Command: **UCS** Save the UCS as CABlNET.
Command: **SETVAR** Set THICKNESS to 0.
Command: **PLAN** View the front of the desk in plan to The cabinet UCS.
Command: **ZOOM** Zoom to a closer view.

Command: **PLlNE**
From point: Pick absolute point 12,12.
Current line-width is 0
Arc/C1ose/Halfwidth/Length/Undo/Width/<Endpoint of line>: Pick polar point @312<0.
Arc/Close/Halfwidth/Length/Undo/Width/<Endpoint of line>: Pick polar point @132<90
Arc/Close/Halfwidth/Length/Undo/Width/<Endpoint of line>: Pick polar point @312<180
Arc/Close/Halfwidth/Length/Undo/Width/<Endpoint of line>: C



Command: **COPY** Do a copy multiple to place two drawers above the original.
Select objects: Select the drawer polyline.

Select objects: <**RETURN**>
<Base point or displacement>/Multiple: **M**
Base point: ' Pick absolute point 0,0.
Second point of displacement: Pick polar point @144<90.
Second point of displacement: Pick polar point @288<90. ,
Command:**VIEW** Restore view 3D.



Making a Solid Building Block

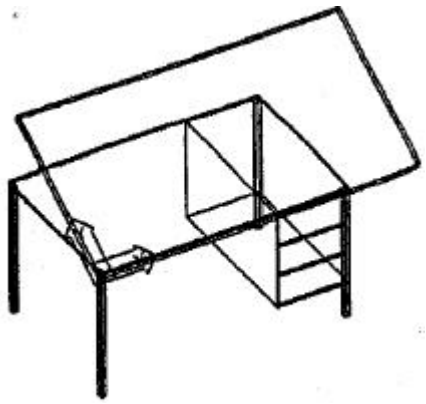
Command: **UCS** Use Entity selection to see how it works.
Origin/ZAxis/3point/Entlty/View/X/Y/Z/Prev/Restore/SaveIDel/7/<World>: **E**
Select object to align UCS: Select the table top solid edge anywhere.

Command: **COLOR** Set color to BYLAYER.

Command: **ZOOM** Zoom to a clear Brea in the drawing.
Command: **IAYER** Set layer to O so 80 CUBE will take on properties of the inserted layer.

Command: **GRID** Set grid temporarily to 1 mm.
Command: **SNAP** Set snap temporarily to 1 mm.
Command: **SETVAR** Set THICKNESS to 1 mm.
Command: **SOLID** Draw a 1 mm square.
Command: **BLOCK** Block solid as CUBE.
Block name (or ?): CUBE
Insertion base point: Pick point (1).

Select objects: Select the Solid
1 selected, 1 found.
Select objects: <**RETURN**>
.
Command: **SETVAR**. Set thickness back to 0.
Command: **ZOOM** Zoom Previous.

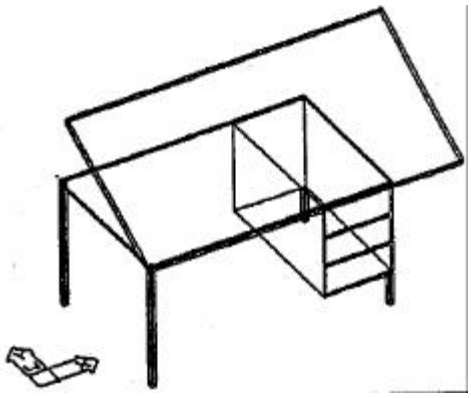


Using INSERT to Insert a 3D Block to Create Drawing Board

Command: **COLOR** Set color to green.
Command: **LAYER** Set layer TABLE current.
Command: **UCS** Restore TOP UCS.
Command: **UCS**
Origin/ZAxis/3point/Entity/View/X/Y/Z/Prev/Restore/Save/Del/?/<World>: **X**
Rotation angle about X axis <0.00>: **30**
Command**: UCS** Save UCS as BOARD.

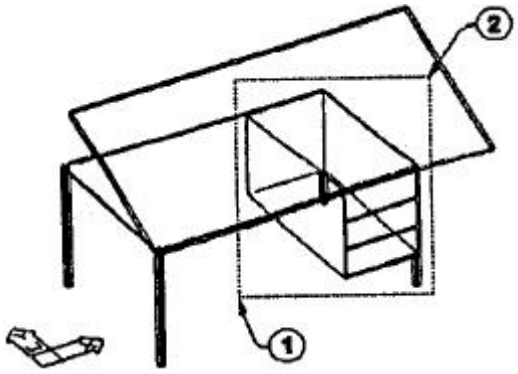
Command: **INSERT**
Block name (or ?): CUBE
Insertion point: **-24, -24** Start point is 24 mm from 0,0 to get 24 mm overlap.

X scale factor <1> / Corner / XYZ: XYZ
X scale factor <1> / Corner: 1488 Drawing board length.
y scale factor (default-X): 744 Drawing board width.
Z scale factor (default-X): 30 Drawing board thickness.
Rotation angle <0.00>: **<RETURN>**



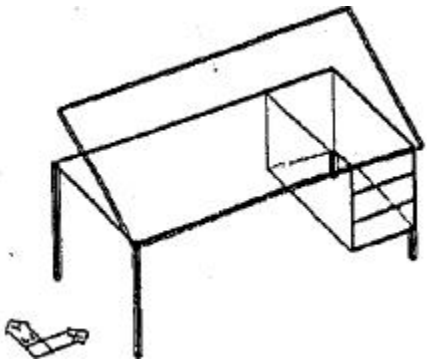
Using CHPROP to Edit Entity Thickness in 3D

Command: **UCS**	Set the UCS to world.
Command: **ZOOM**	Zoom Extents.
Command: **CHPROP**	Type or select
Select objects:	Select the two right legs at the cabinet.
Select objects: **<RETURN>**	
Change what property (Color/LAyer/LType/Thickness) ? **T**	Thickness.
New thickness <600>: 156	New value
Change what property (Color/LAyer/LType/Thickness) ? **<RETURN>**	
Command: **REDRAW**	Clean up the display.



Making the Table Longer With STRETCH

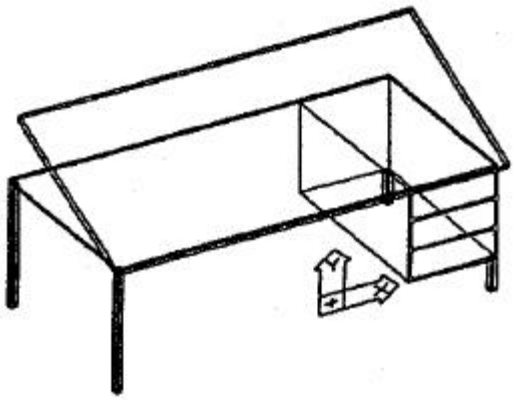
Command: **STRETCH**	Type or select.
Select objects to stretch by window…	
Select objects: **C**	Crossing.
First corner:	Pick first comer point at (1).
Other corner:	Pick second corner point at (2).
8 found.	
Select objects : <**RETURN**>	
Base point:	Pick any point.
New point: **@288<0**	Moves 288 mm.
Command: **REDRAW**	Clean up the display.

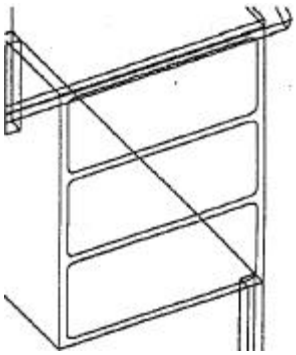


Trying to Use FIILLET in 3D to Fillet Drawers

Command: **FILLET**	Set radius to 12 mm.
View is not plan to UCS.	Command results mar not be obvious.
Polyline/Radius/<Select two objects>: R	
Enter fillet radius <0>: 12	
Command: **FILLET**	
View is not plan to **UCS**.	Command results may not be obvious.
Polyline/Rad1us/<Select two objects>: P	Drawers are poJy1ines.
Select 2D polyline:	Pick a drawer.
Entity not parallel with UCS.	An error me8sage is displayed.
Select 2D polyline: "Cancel"	Use <"C> to cancel fillet.

Now, try it again after you restore the CABINET coordinate system that you used when you created the drawers.

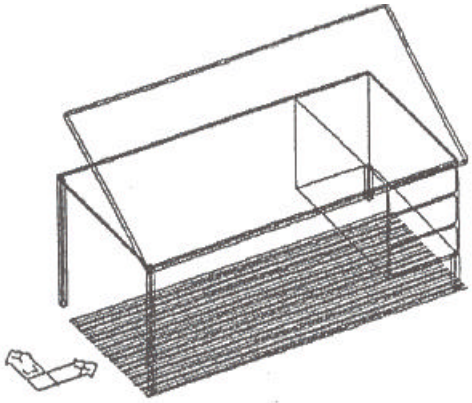




Using FILLET to Fillet Drawers in 3D

Command: **UCS**	Restore CABINET.
Command: **FILLET**	Fillet the first (lower) drawer.

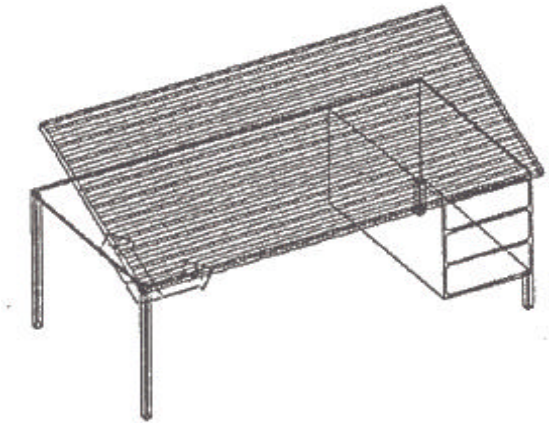
Command: **FILLET** Fillet the second drawer.
Command: **FILLET** Fillet the last drawer.

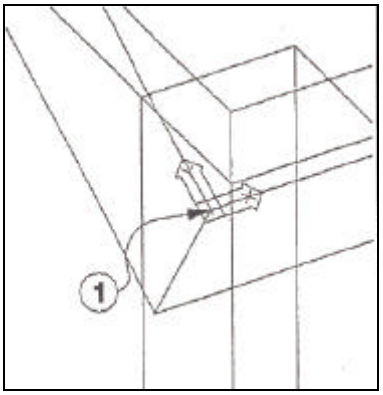


Trying to Hatch the Drawing Board

Command: **UCS** Set UCS back to World.
Command: **LAYER** Set layer 0 current.
Command: **COLOR** Set color to BYLAYER.
Command: **LINE** Use osnap INTersection to draw 4 boundary lines around the top of the drawing board.

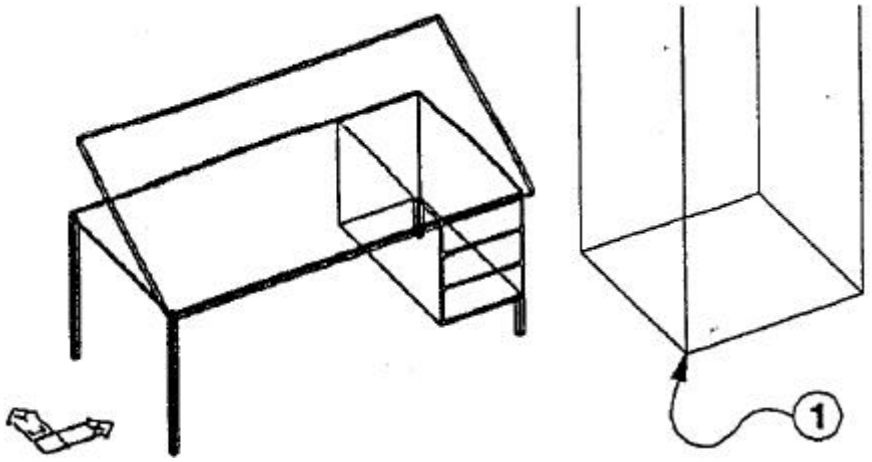
Command: **HATCH**
Pattern (? or name/U, sty1e): **LINE**
Sca1e for pattern <1.0000>: **144**
Ang1e for pattern <0.00>: <**RETURN**>
Se1ect objects: Select the 4 boundary lines
4 se1ected.
Se1ect objects: **<RETURN>**





Hatching the Drawing Board

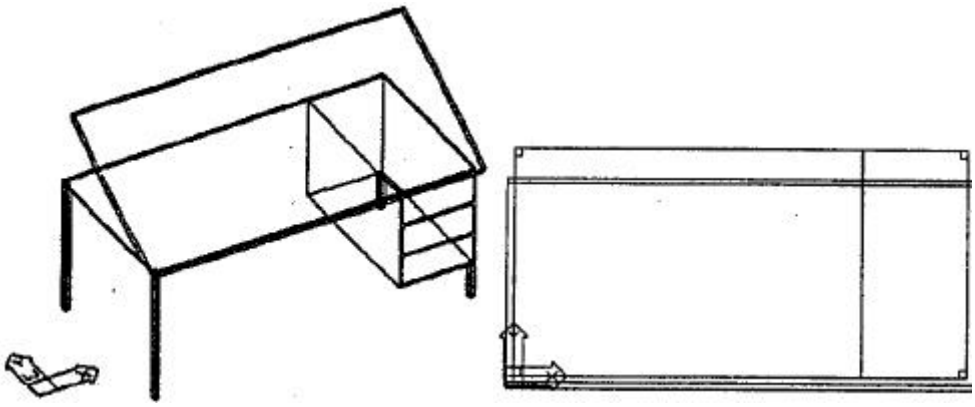
Command: **ERASE** Erase the previous hatch.
Command: **UCS** Restore BOARD UCS.
Command: **ZOOM** Zoom into comer with UCS icon
Command: **UCS** Use origin to move UCS to the top of the board.
Command: **ZOOM** Zoom previous.
Command: **HATCH** Repeat the hatch sequence in the previous exercise.

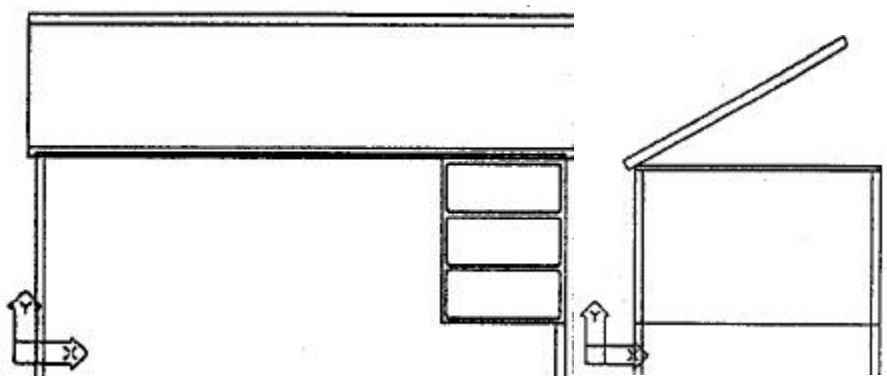


Setting Up the Drawing as a Block

Command: **ERASE**: Erase the hatch and boundary lines on layer 0.
Command: **UCS** Set the UCS to World.

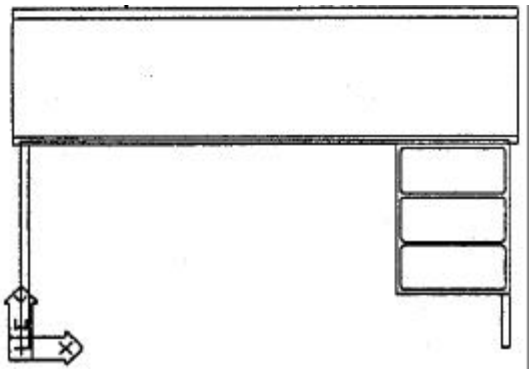
Command: **BASE**
Base point <0, 0, 0>: Pick lower left front comer of left front leg at (1).





Using UCSFOLLOW to View Saved UCS Planes in Plan

Command: **SETVAR**.
Variable name or ?: **UCSFOLLOW**
New value for UCSFOLLOW <O>: **1**
Command: **UCS** Restore TOP UCS.
Command: **UCS** Restore FRONT UCS.
Command: **UCS** Restore R-SIDE UCS.



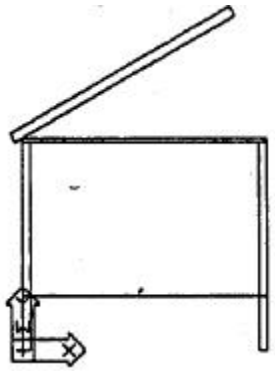
Using, BLOCK to Make the Table´s Front View

Command: **ZOOM** Zoom Center at 0,0,0 and 2400 height.
Command: **INSERT** Insert **TABLE** at 0,0,0 default scale factors and angle.

Command: **UCS** Use Y option to rotate 90 degrees about Y axis.
Origin/ZAxis/3point/Entity/View/X/Y/Z/Prev/Restore/Save/Del/?/<World>: **Y**
Rotation angle about y axis <0.0>: **90**

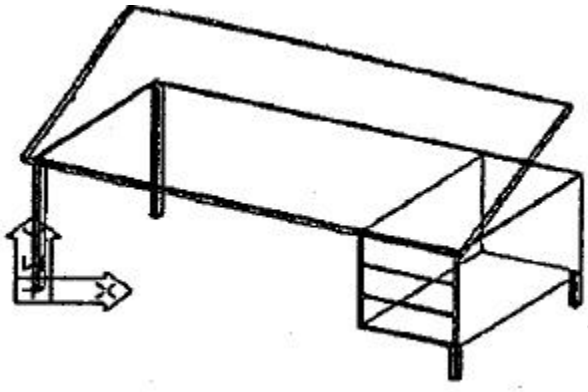
Command: **ROTATE** Rotate -90 degrees at base point 0,0,0.
Command: **UCS** Set UCS to World.

Command: **BLOCK**	Block table to **FRONT** at insert point 0,0,0.



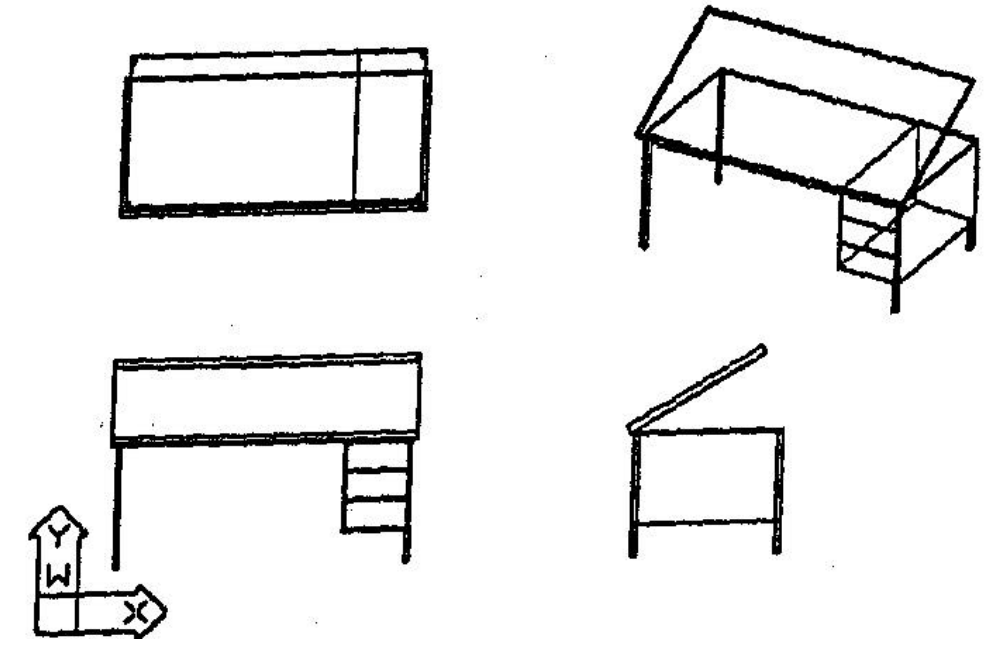
Using BLOCK to Make the Tables Right Side View

Command: **INSERT**	Insert FRONT at 0,0,0 default scale factors and angle.
Command: **UCS**	Use X option to rotate 90 degrees about X axis.
Command: **ROTATE**:	Rotate 90 degrees at base point 0,0,0.
Command: **UCS**	Set UCS to World.
Command: **BLOCK**	Block table to **R-SIDE** at insert point 0,0,0.



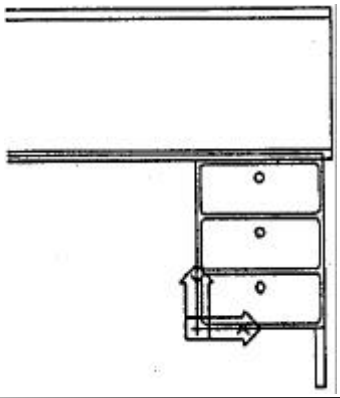
Using BLOCK to Make 3D View of Table

Command: **INSERT**	Insert **TABLE** at 0,0,0 default scale factors and an angle of -30.
Command: **UCS**	Use Y option to rotate 90 degrees about Y axis.
Command: **ROTATE**	Rotate -60 degrees at base point 0,0,0.
Command: **UCS**	Set UCS to World.
Command: **BLOCK**	Block table to **3D** at insert point 0,0,0.



Using INSERT to Create a Multiview Drawing

Command: **ZOOM**	Zoom All
Command: **INSERT** s	Insert *TABLE at 480,2184,0 default scale factors and angle.
Command; **INSERT**	Insert FRONT at 480,432,0 default scale factors and angle.
Command: **INSERT**	Insert R-SIDE at 3000,432,0 default scale factors and angle.
Command: **INSERT**	Insert 3D at 3000,1944,0 default scale factors and angle.



Using Block Redefinition to Revise a 3D Drawing

Command: **BLOCK**	Block the **FRONT**, **R-SIDE**, and 3D with the name **VIEWS** and insert point at 0,0,0. This will provide room to edit the table.
Command: **UCS**	Rotate the X axis 90 degrees.
Command: **UCS**	Move the Origin to the comer of the cabinet with ENDPoint
Command: **ZOOM**	Zoom in to front of drawers.
Command: **LAYER**	Set layer **TABLE** current.
Command: **COLOR**	Set color to b1ue.
Command: **SETVAR**	Set THICKNESS to 24 mm.
Command: **CIRCLE**	Draw a 24 mm circle at 168,108.
Command: **COPY**	Copy mu1tip1e the circle to other drawers.
Command: **UCS**	Set UCS to World.
Command: **BLOCK**	Redefine **TABLE** block with insert point at 480,2184.
Command: **OOPS**	Bring the table back.
Command: **INSERT**	Insert .**VIEWS** at 0,0,0.
Command: **ZOOM**	Zoom All.