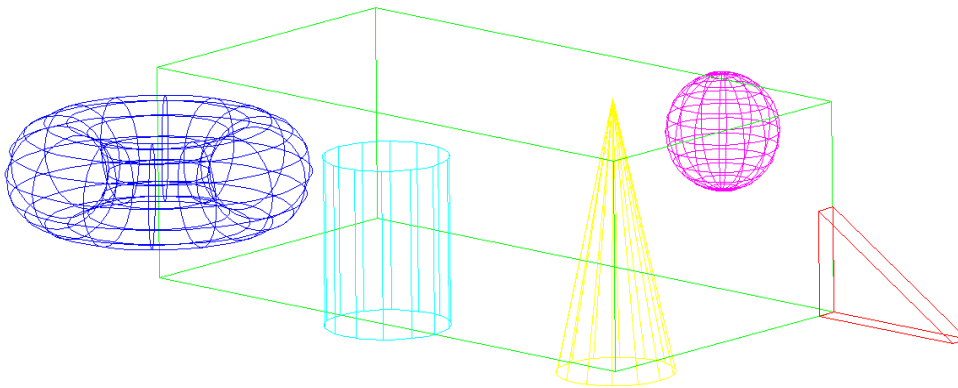
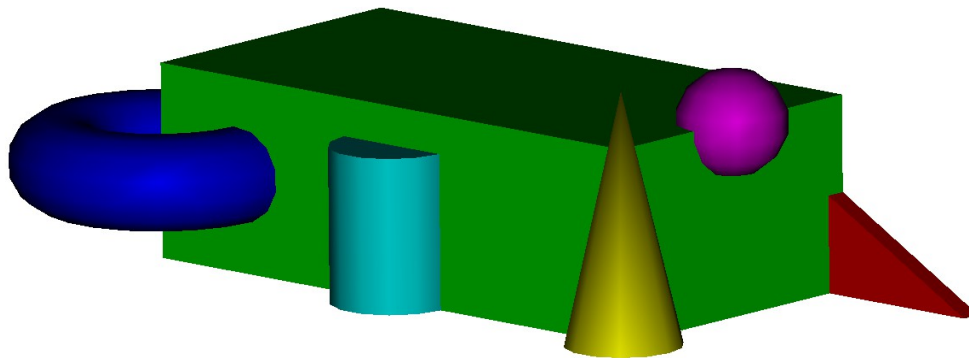

Solid Modeling

Solid Modeling:

1. Solid modeling is the most sophisticated type of 3D models. By using primitive objects, such as **Box, Cylinder, Cone, Wedge, Torus, Pyramid, Polysolid or Sphere** you can create solid objects.



Wireframe View



Shaded View



ISOLINES controls the wireframe display of curved solids. Increasing the value of isolines is improving the visual result, but is slowing down the drawing display.
FACETRES is adjusting the smoothness of shaded and rendered surfaces and solids.

Boolean operations

The above created primitive solids can be transformed into complex solid objects applying boolean operations, by using commands such as Intersect, Union and Subtract.

Intersect:

The INTERSECT command is creating a solid from the common volume of selected solids.



Two solids cylinder and box are selected. The intersect command is not saving the original solids, the new created solid is defined by the common volume of cylinder and box.

Union:

The UNION command is adding solids together, making one. The new defined solid is using both, common and uncommon volume of the selected solids.

Subtract:

The SUBTRACT command is subtracting one solid from another.



The small cylinder was subtracted from the larger cylinder. A hole was created.

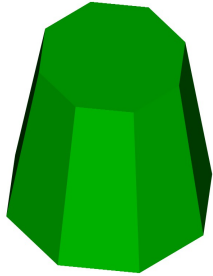


DELOBJ is controlling, weather the 2D object used in the extrude or revolve command will be deleted or kept. Setting the value to 0 will keep the 2D objects.

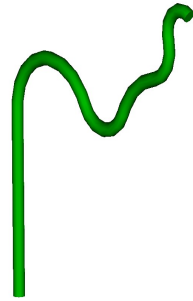
Extrude

EXTRUDE is using closed 2D objects to create solids.

- By specifying a height the solid will be perpendicular to the 2D object, using the taper angle will taper the extrusion.
- Using the path option the extrusion will be along a path object.



The octagon was extruded by defining a value for height and using an angle of taper for extrusion of 10.

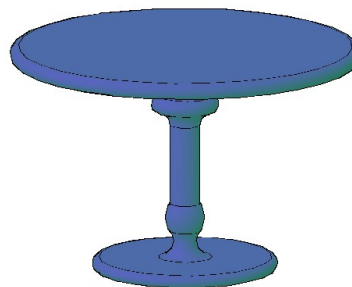
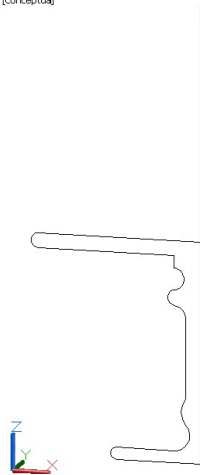


A circle was extruded using a curved polyline as a path object.

Revolve

REVOLVE is creating a solid object by revolving closed objects such as polylines, circles, etc. around an axis.

[...] [Custom View] [Conceptual]



The table was drawn, by revolving the profile of it around an axis.