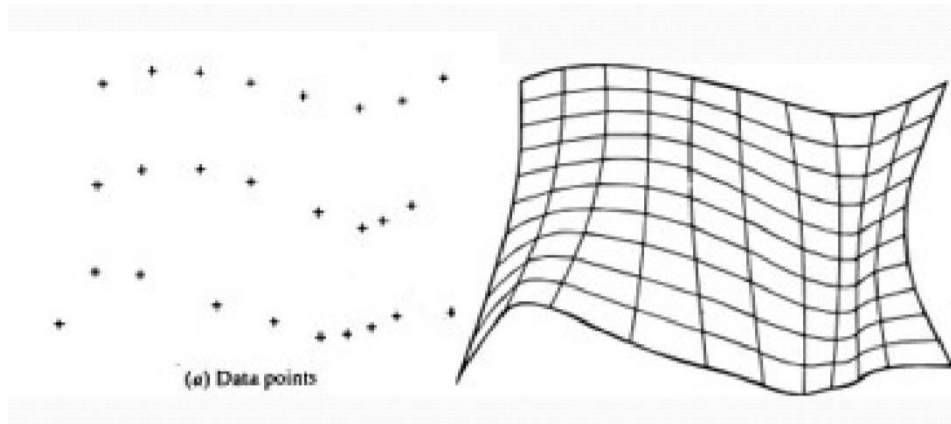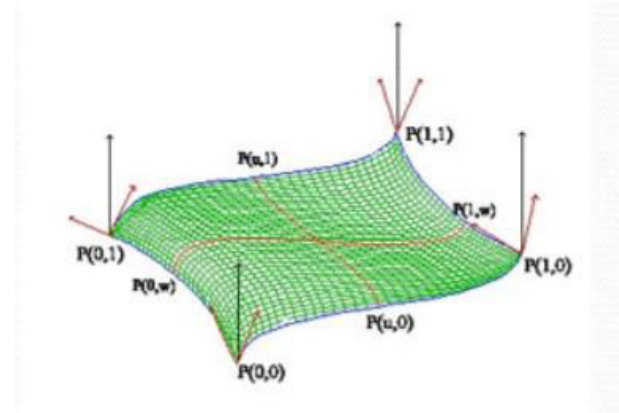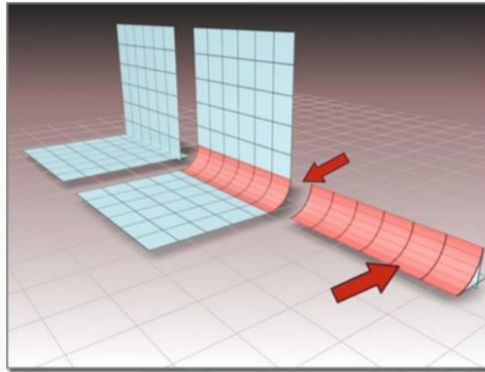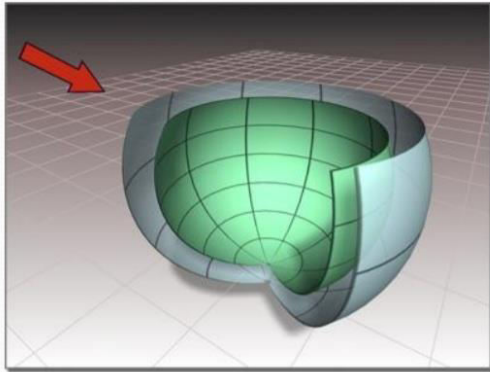# B-spline surface

This is a surface that can approximate or interpolate given input data. It is a synthetic surface. It is a general surface like the Bezier surface but with the advantage of permitting local control of the surface.
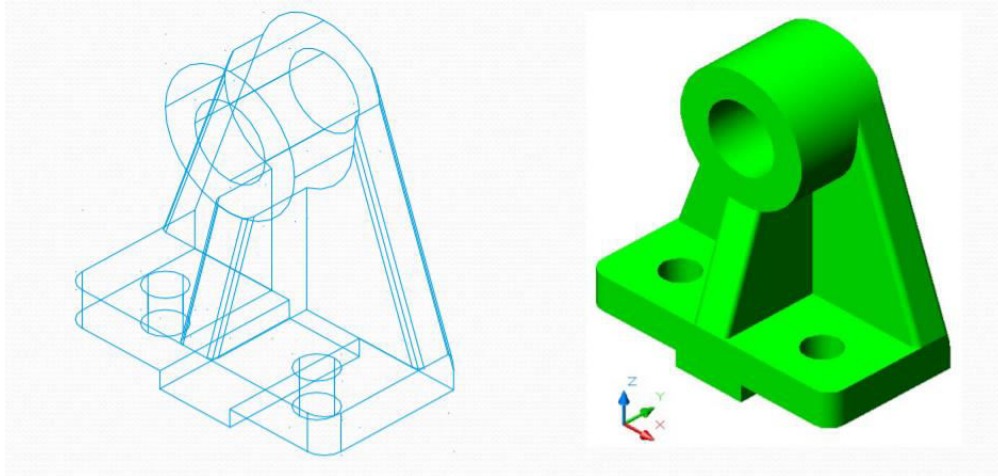

(a) Data points

Coons patch Fillet surface Offset surface

Solid Modeling

In the solid modeling, the solid definitions include vertices (nodes), edges, surfaces, weight, and volume. The model is a complete and unambiguous representation of a precisely enclosed and filled volume

Methods of Creating Solid Models

Constructive Solid Geometry (CSG), CAD packages; Unigraphics, AutoCAD – 3D modeler.

Boundary Representation (B-rep), mostly used in finite element programs.

Parametric Modeling, CAD packages: SolidWorks, Pro/Engineer

Primitive solids

Primitive creation functions:

These functions retrieve a solid of a simple shape from among the primitive solids stored in the program in advance and create a solid of the same shape but of the size specified by the user