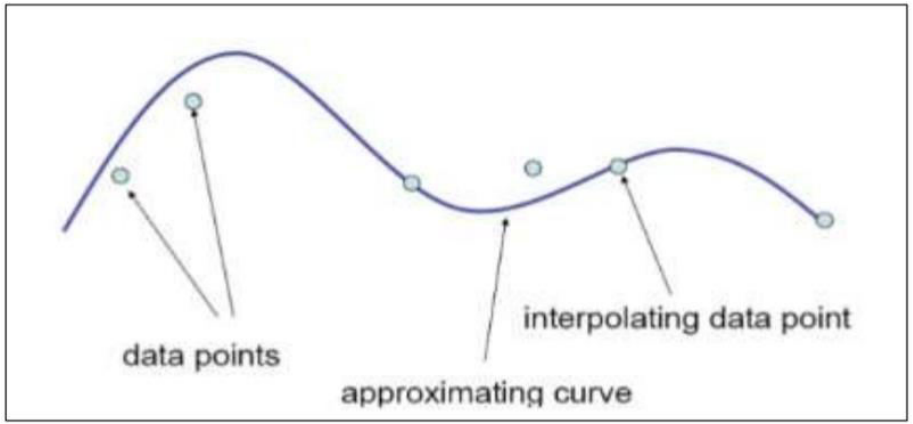
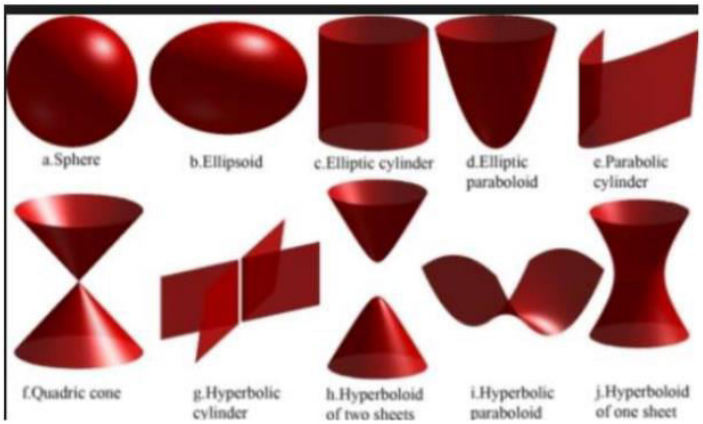
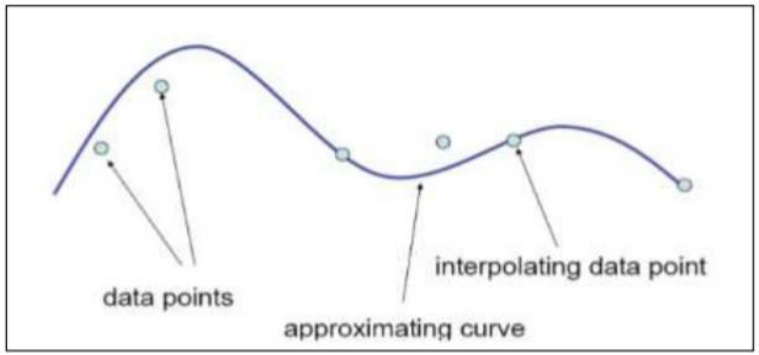
Curves and Surfaces:





Curves and Surfaces:

- Displays of three dimensional curved lines and surfaces can be generated from an input set of mathematical functions defining the objects or from a set of users specified data points.
- When functions are specified, a package can project the defining equations for a curve to the display plane and plot pixel positions along the path of the projected function.



Quadric surfaces

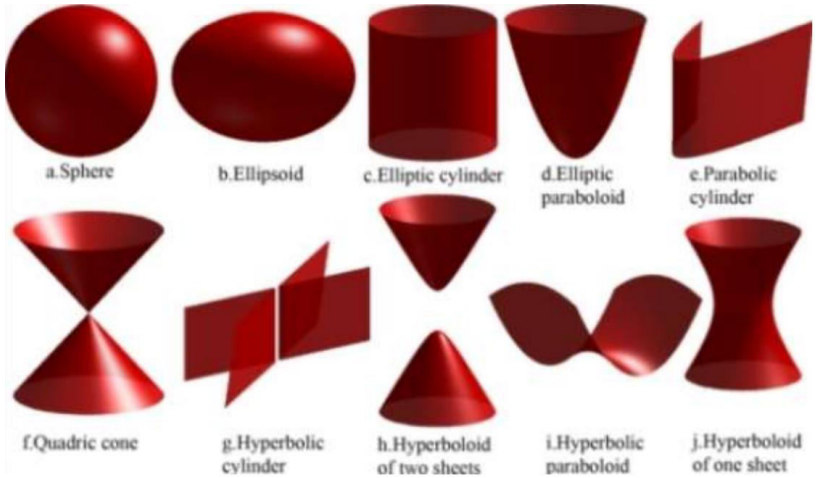
- A frequently used class of objects are the quadric surfaces, which are described with second-degree equations (quadratics). • They include

1. Spheres
2. 2. Ellipsoids
3. 3. Parabolise
4. 4. Hyperboloids etc.

Sphere

$X^2+Y^2+Z^2= r^2$

Quadric surfaces



Lecture No 32 Topic: Sphere

- In Cartesian coordinates, a spherical surface with radius r centered on the coordinate origin is defined as the set of points (x, y, z) that satisfy the equation

Sphere

$X^2+Y^2+Z^2= r^2$