Features

- Features are the building blocks of the part.
- Features are the shapes and operations that construct the part.
Examples of Shape Features

**Boss feature**

- Adds material to part.
- Created from 2D sketch.
- Must be attached to the rest of the part.
Examples of Shape Features

Cut feature

- Removes material from part.
- Created from a 2D sketch.
- Must be attached to the rest of the part.
Examples of Shape Features

Hole feature

- Removes material from part.
- Works like a more intelligent cut feature.
- Usually corresponds to manufacturing process such as counter-sink, thread, counter-bore.
Examples of Operation Features

Fillet feature

- Used to round off sharp edges.
- Can remove or add material.
  - Outside edge (convex fillet) removes material.
  - Inside edge (concave fillet) adds material.
Features and Commands

Shell feature

- The shell feature removes material from the selected face.
- Using the shell feature creates a hollow box from a solid box.
- Specify the wall thickness for the shell feature.
Features and Commands

Base Feature

- The first feature that is created.
- The foundation of the part.
- The workpiece to which everything else is attached.
- The base feature geometry for the box is an extrusion.
- The extrusion is named Base-Extrude.
- Tip: Keep the base feature simple.
To Create an Extruded Base Feature:

1. Select a sketch plane.

2. Sketch a 2D profile.

3. Extrude the sketch perpendicular to sketch plane.

Sketch the 2D profile   Extrude the sketch   Resulting base feature