Contents of Lesson 3

1. Ways to create solid objects
   • **Extrude:**
     Open a sketch → Sketch a figure → Extrude
1- Ways to create object solid

- **Revolve:**
  - Requires a Center Line
  - Sketch a close contour, click *Insert*, then *Base* then *revolve*. 
1. Ways to create solid object

- **Sweep:**
  - Sketch a close profile on one plane
  - Sketch sweep path on another plane
  - Click *Insert*, then *Base*, then *Sweep*
  - Specify sweep section, sweep path
1. Ways to create solid object

• Loft:
  - First, create a series of reference planes, say P4, P5, and P6; all parallel to P1
  - Sketch a close profile on each of P1, P4, P5, P6
  - Click Loft feature then specify the sketches in sequence
2- Add relations

- Examples of relations:
  collinear, parallel,
  concentric, equal, etc...

- Example of part with
  concentric features:
  - Open sketch, sketch circular
    profile then extrude
  - Open sketch on front face
    of cylinder, sketch circle
  - Click Add Relations icon,
    then specify relation
  - Extrude boss
3. Linear Pattern

- Build a rectangular block (50x50x30mm)
- Sketch a 5mm dia circle on front face, and dimension its location wrt 2 edges
- Click Linear Pattern icon, then specify number of features, item to copy and directions of pattern
4. Circular Pattern

- Build a rectangular block (50x50x30mm)
- Sketch a 5mm dia circle on front face, and dimension its location wrt a reference center line
- Click Linear Pattern icon, then specify number of features, item to copy and directions of pattern