

# Advanced Solid Modeling

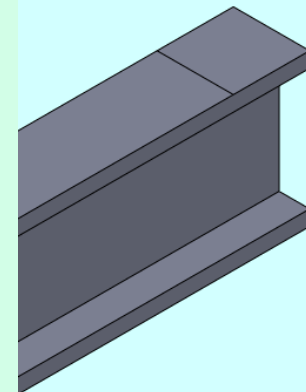
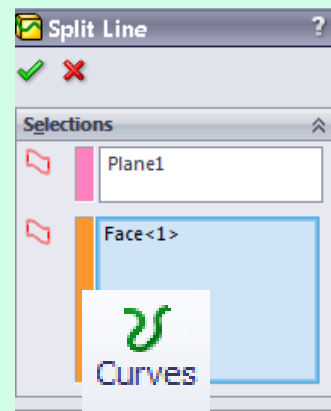
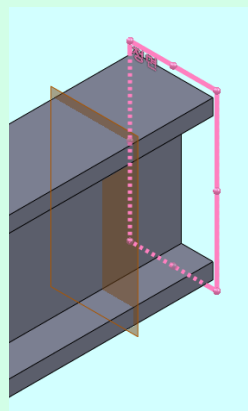
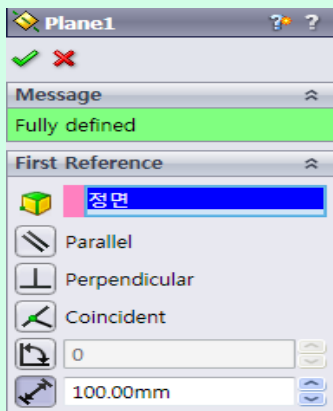
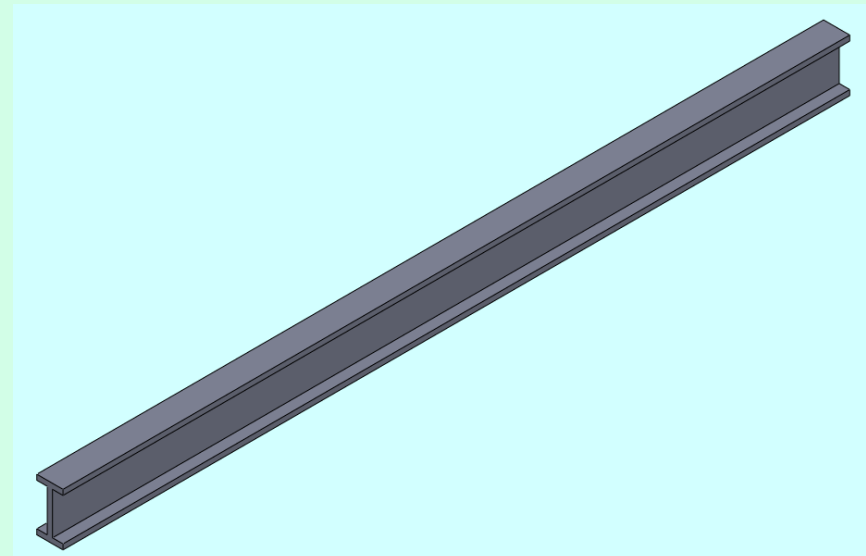
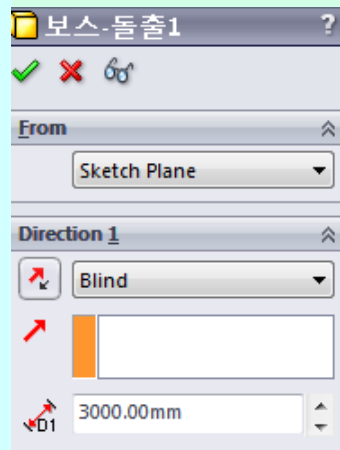
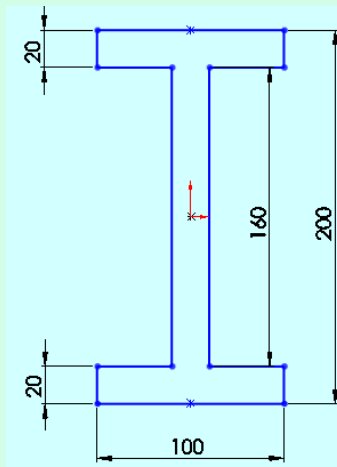
Basic of CAE

**DEPARTMENT OF  
MECHATRONICS ENGINEERING**

# CAE Example

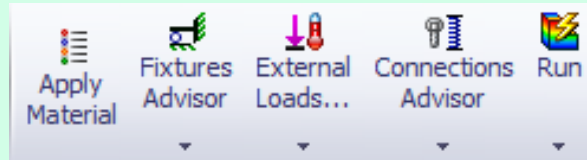
## - Simple Model

- Build the following part.



# CAE Example

- Simple Model
- Static Analysis.



**Study** ?

✓ ✗ ↵

**Message** ^

Study stresses, displacements, strains and factor of safety for components with linear material

**Name** ^

Study 2

**Type** ^

- Static
- Frequency
- Buckling
- Thermal
- Drop Test
- Fatigue
- Nonlinear
- Linear Dynamic
- Pressure Vessel Design

**Fixture** ?

✓ ✗ ↵

Type Split

**Example** ^

**Standard (Fixed Geometry)** ^

- Fixed Geometry
- Roller/Slider
- Fixed Hinge
- Face<1>

**Force/Torque**

✓ ✗ ↵

Type Split

**Force/Torque** ^

- Force
- Torque
- Face<1>

Normal

Selected direction

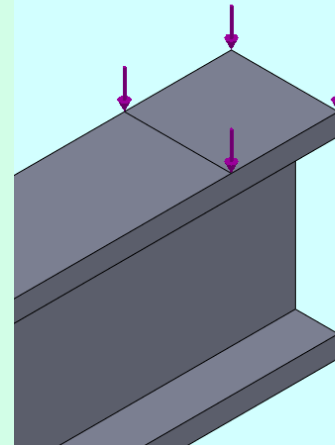
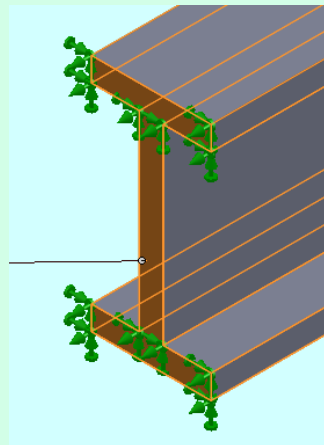
SI

1000 N

Reverse direction

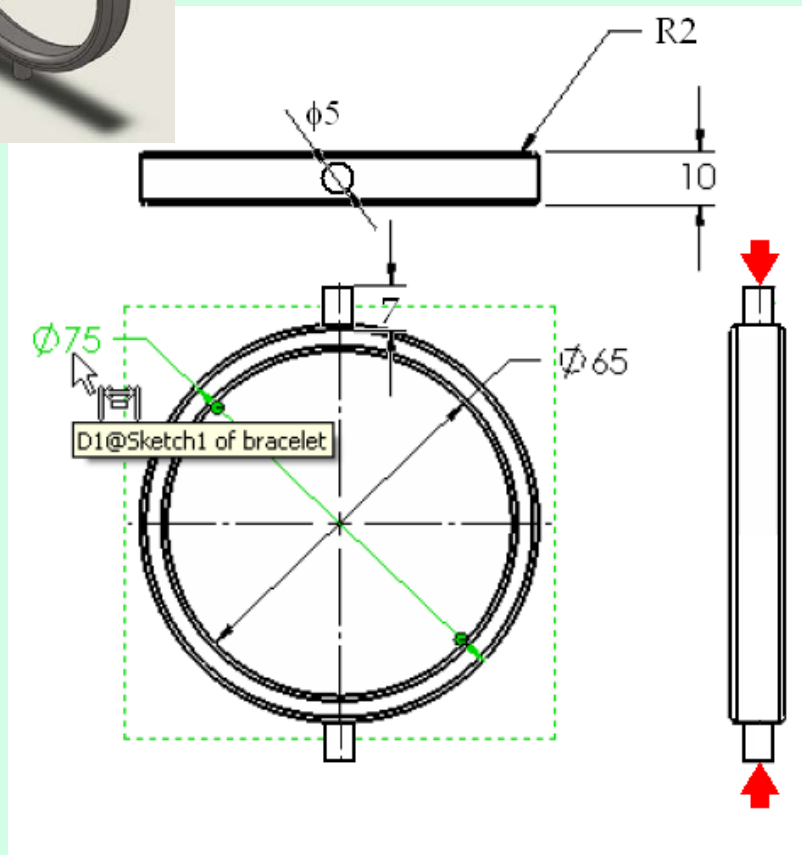
Per item

Total



**& MESHING  
& GO!!!**

# CAE role 1



그림과 같은 링 부재(Alloy steel)의 상하 돌출부에 각각 힘 2kN이 작용할 때 솔리드웍스를 이용하여 정적해석 수행

- 안전계수를 3으로 할 때의 불안정영역
- 피로해석 방법
- 2kN의 힘을 가하였을 때 링이 탄성역에서 정적안정성을 가지도록 설계 (단 링의 외경과 내경 및 돌출부의 직경은 변화시킬 수 없음)
- 모드 해석 실행