University of Nottingham
Department of Mechanical, Materials and Manufacturing Engineering
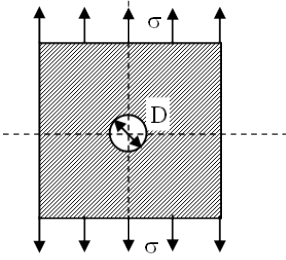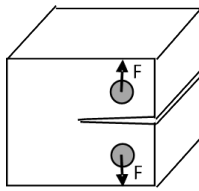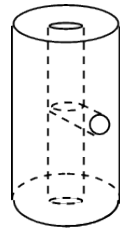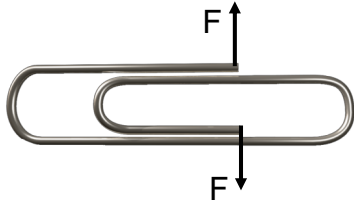**MMME3086 - Computer Modelling Techniques**
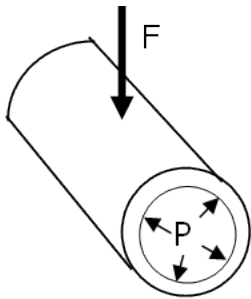
Exercise Sheet (FE)-2
(Choosing elements)

Which elements would you recommend for the examples shown below? Note that more than one type of element may be suitable.

Example	Element Type	Reason
1. A thin square plate with a central circular hole subjected to a uniaxial stress.		
2. A standard fracture test specimen (called compact tension specimen) used to determine the fracture toughness of materials. Loading is applied to open the crack using pins inserted in circular holes.		
3. A thick-walled pressurised pipe containing a pressurised fluid.		

4. A paper clip loaded by two forces as shown. F ↑ F ↓		
5. A thin-walled gas pipe subjected to a concentrated point force. F P		
6. Two steel cylindrical rollers pressed on a flat block. P/unit length P/unit length		