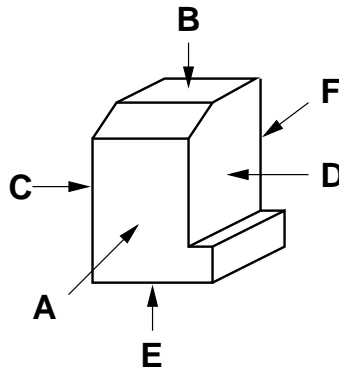


Question 1. (CAD Drawing)

Draw a **first** angle orthogonal projection drawing of the following object. (*Hint: first angle requires slightly more thinking than third angle.*)



Question 2. (Electronic Wiring)

1. Sketch a circuit that is commonly drawn **diagonally**.
2. Name the circuit you just sketched.
3. When would a **multi-element** circuit component be drawn in a **detached** representation?

Question 3. (Logic Symbols)

Draw the IEEE standard symbol for:

1. An **inverter**.
2. A **3-input OR** gate.
3. A **single** device consisting of *two* **2-input AND** gates followed by *one* **2-input XOR** gate.

Question 4. (Interconnection of Circuits)

1. What does it mean to **color-code** the wiring in your circuits?
2. Give two (2) ways in which a **breadboard** (proto-board) is **less reliable** than a **printed circuit board** (PCB).
3. Sketch a **thru-hole** connection.