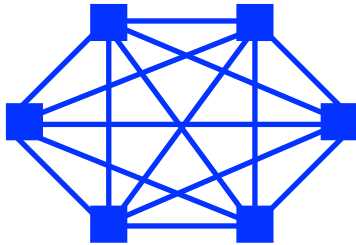


**12. # 12.9** Draw a six-node full mesh network (you may draw the diagram, take a picture and upload it to Canvas). How many connections did your drawing require? Does this agree with the formula in the text? (If not, fix your drawing) How many connections would a fifty-node full mesh network require? (Calculation Exercise)

**Answer:**



Six-node full mesh network

**The number of connections of a six-node full mesh network:**

$$\begin{aligned}\text{Number of connections} &= (\text{nodes}) \times (\text{nodes} - 1) / 2 \\ &= 6 \times (6 - 1) / 2 \\ &= 15 \text{ connections}\end{aligned}$$

**The number of connections of a fifty-node full mesh network:**

$$\begin{aligned}\text{Number of connections} &= (\text{nodes}) \times (\text{nodes} - 1) / 2 \\ &= 50 \times (50 - 1) / 2 \\ &= 1,225 \text{ connections}\end{aligned}$$

**13.** How many connections are required for 30 nodes to be connected in a full mesh topology? (Calculation Exercise)

**Answer:**

**The number of connections for 30 nodes in a full mesh topology:**

$$\begin{aligned}\text{Number of connections} &= (\text{nodes}) \times (\text{nodes} - 1) / 2 \\ &= 30 \times (30 - 1) / 2 \\ &= 435 \text{ connections}\end{aligned}$$