Laboratory 5 - Node Voltage and Mesh Current Methods

SPICE Simulation

Problem 1

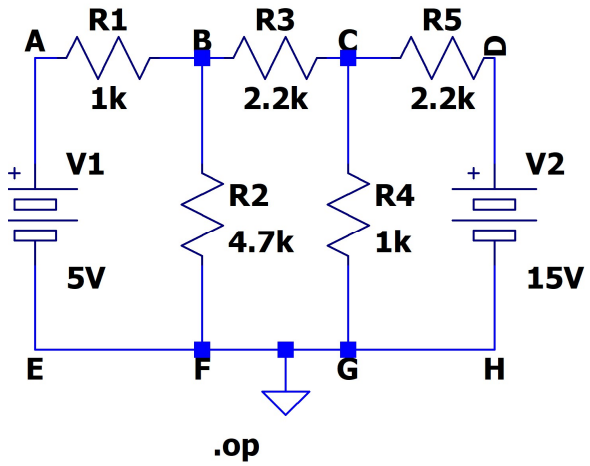

Fig 1a. Circuit Diagram

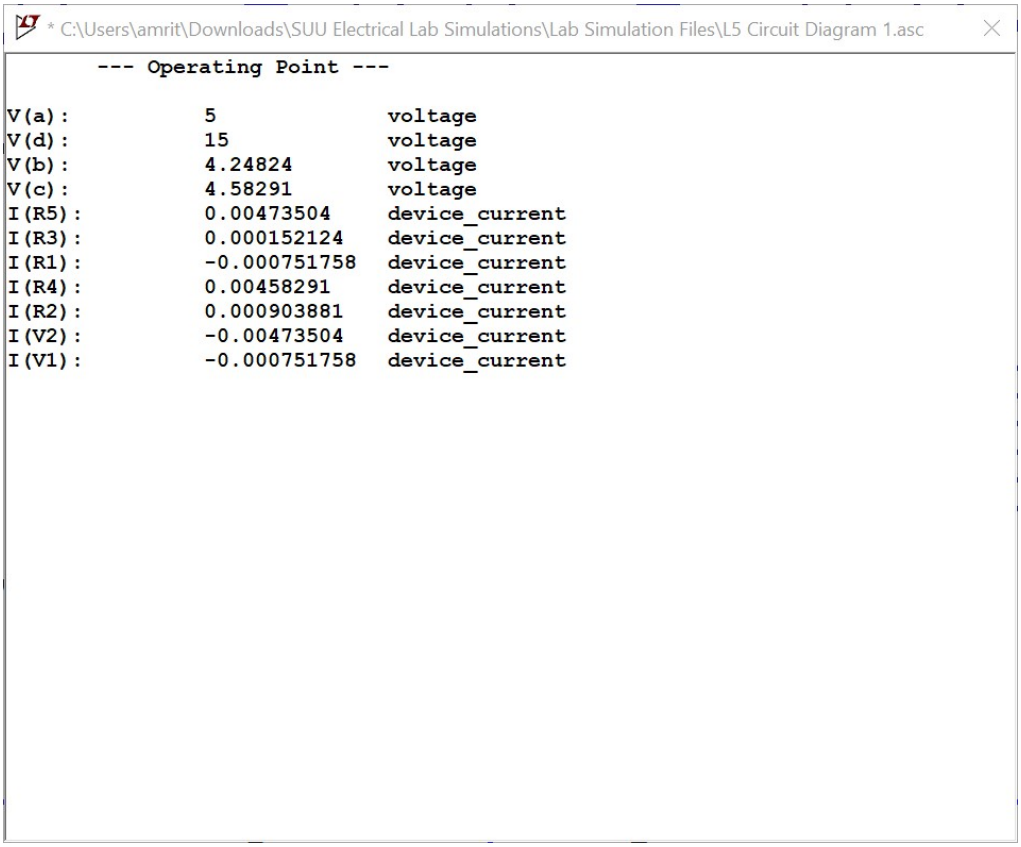

Fig 1b. Operating Points

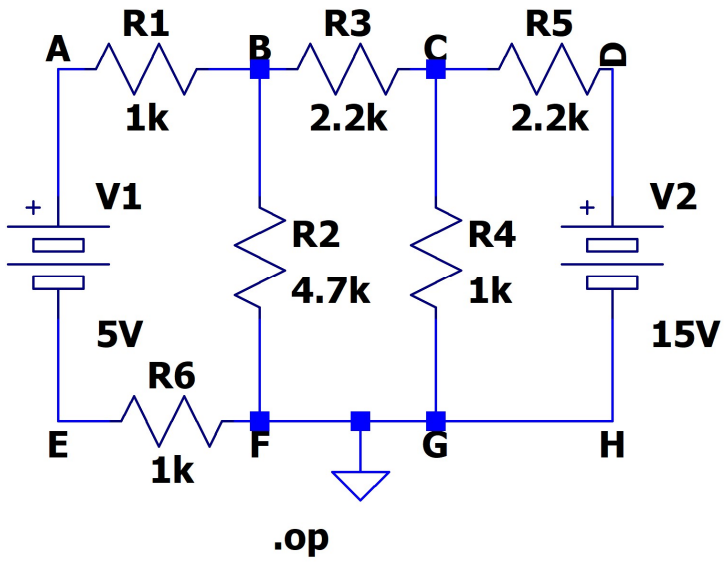

Fig 2a. Circuit Diagram with Resistor between Nodes E & F

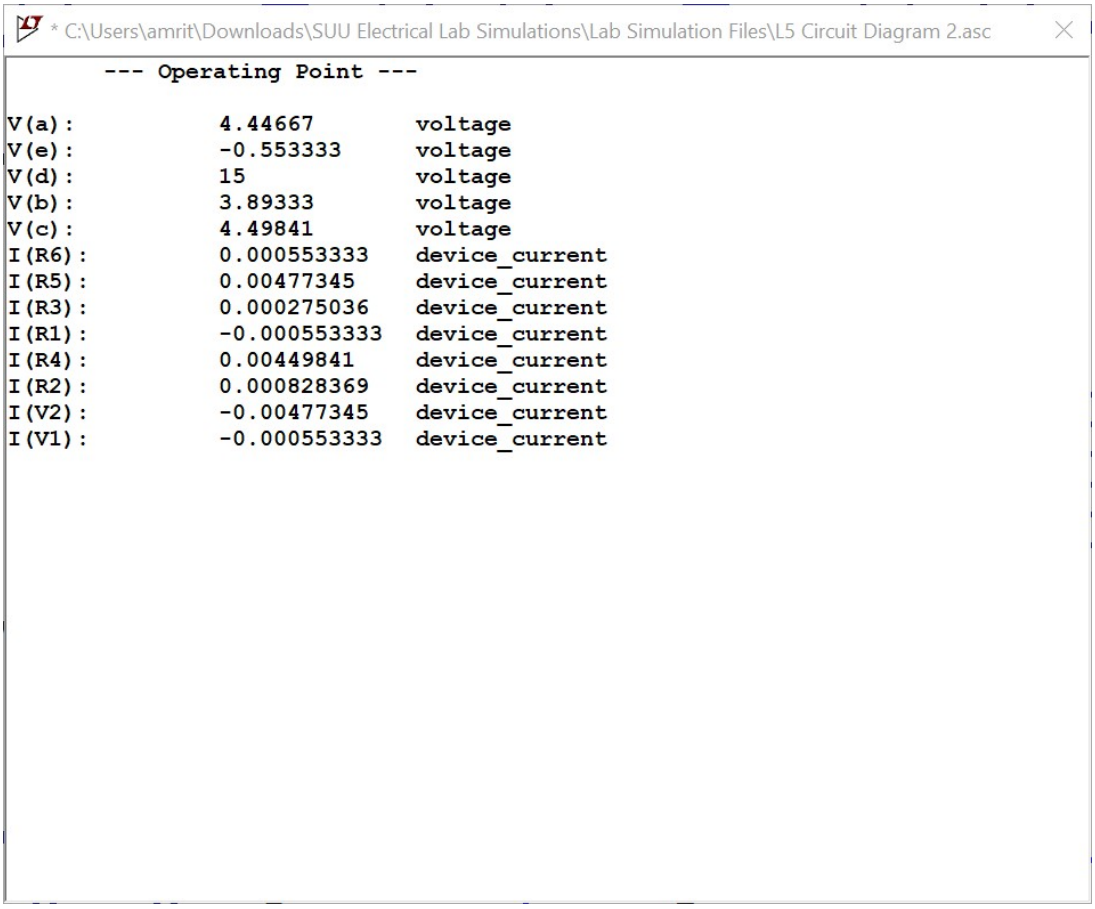

Fig 2b. Operating Points

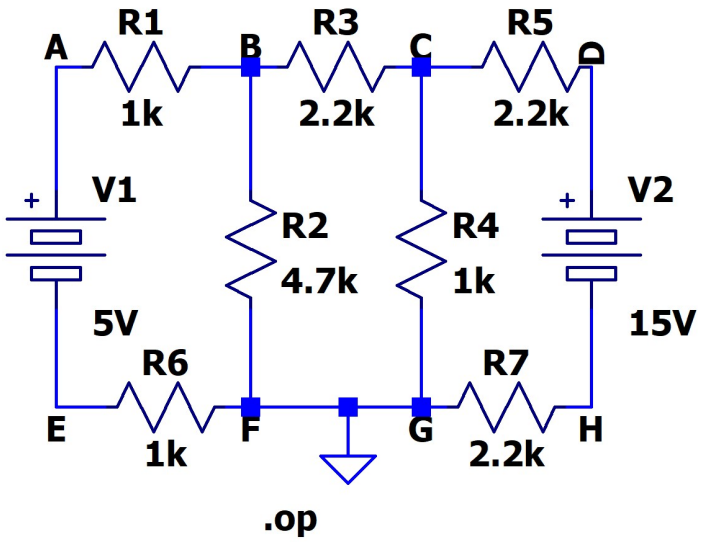

Fig 3a. Circuit Diagram with Resistor between Nodes G & H

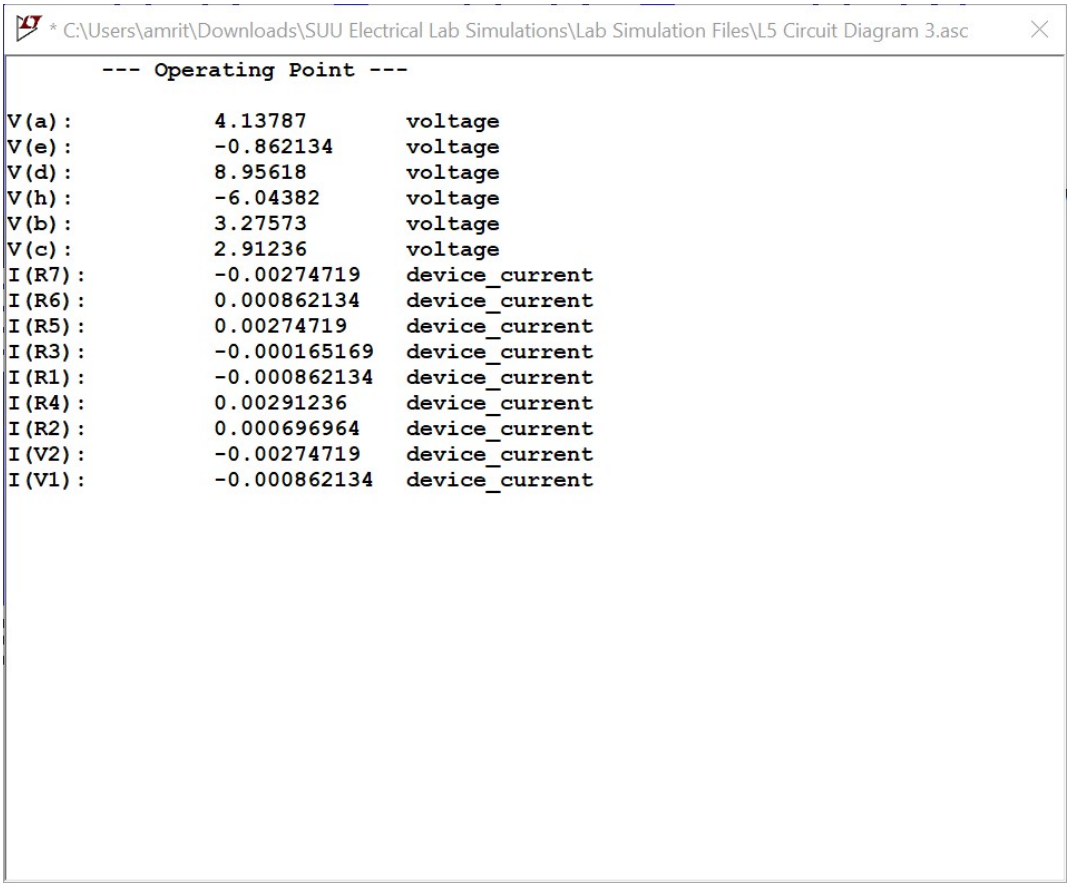

Fig 3b. Operating Points

Both Nodal and Mesh analysis can be applied for all three cases but mesh is easier to solve because it doesn't involve a reference ground voltage. But Nodal is the more practical approach of measurement because the mesh cannot be done in real-time.