Nodal Analysis Procedure

An essential node is a node where three or more circuit elements join. Identify the essential nodes and choose one of them as a reference node. We will treat that reference node as the Ground.

Label the node voltages with respect to Ground from all the essential nodes except the reference node.

Label the currents at every essential node except the reference nodes.

Write symbolic nodal equations at all the essential nodes except the reference node by applying KCL first.

Convert the nodal equations at all the essential nodes except the reference node of step 4 by applying Ohm's law.

Solve the nodal equations obtained in Step 5 in order to get the node voltages.