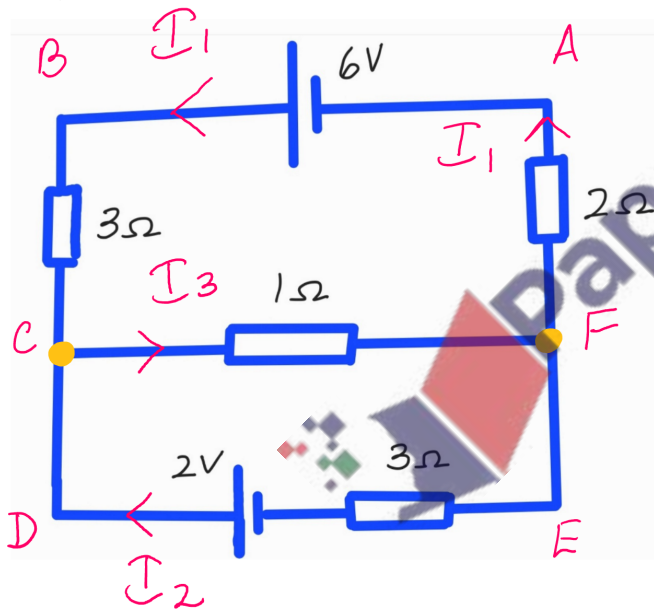


. KCL

- ① Label the circuit (CW or ACW)
- ② Identify the nodes.
- ③ Randomly mark the direction of Current in all branches & based on that, form an equation for Current

$$I_1 + I_2 = I_3$$

Note :- Every Current is Limited in its respective branch extending from one node to the other node.



KVL Consider a closed Loop
ABCFA $+6 - I_1(3) - I_3(1)$

$$- I_1(2) = 0$$

$$6 - 5I_1 - I_3 = 0 \rightarrow \textcircled{1}$$

ABCDEFA $+6 - I_1(3) - 2$
 $+ I_2(3) - I_1(2) = 0$

$$4 - 5I_1 + 3I_2 = 0 \rightarrow \textcircled{2}$$

FCDEF $+ I_3(1) - 2 + I_2(3) = 0$

$$I_3 - 2 + 3I_2 = 0 \rightarrow \textcircled{3}$$

Note :- Solve Simultaneously to obtain Current in Each Branch
Note :- If in case you get a negative answer for Current than this will indicate that the flow of Current is **opposite** to the direction marked on the diagram;