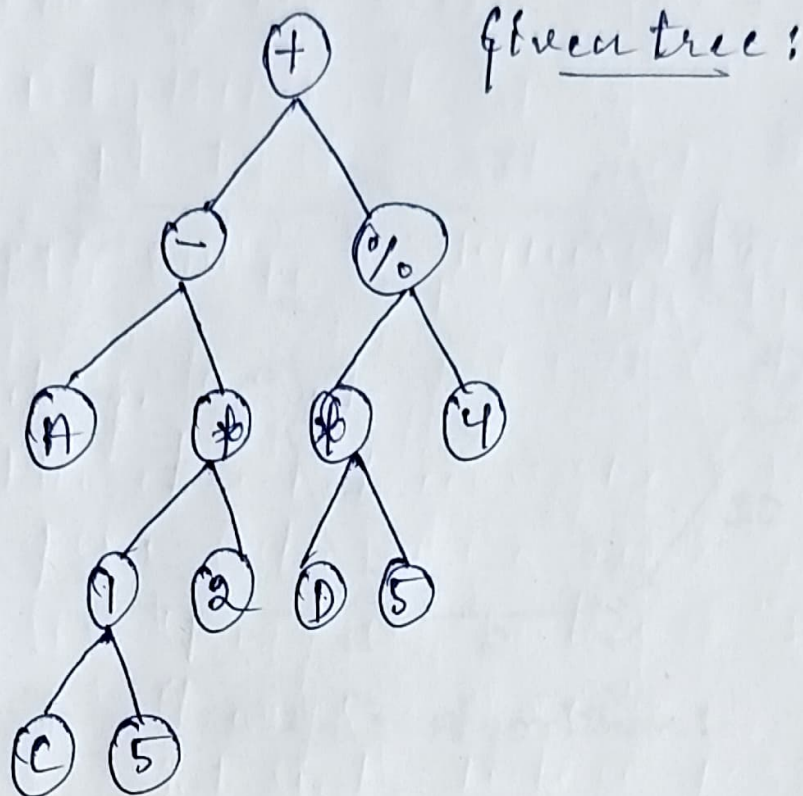


Assignment 1

Q1 sol:



a) In-order: left \longrightarrow Root \longrightarrow Right

$(A - (C / 5) * 2) + ((D * 5) \% 4)$

b) pre-order: Root \longrightarrow left \longrightarrow Right

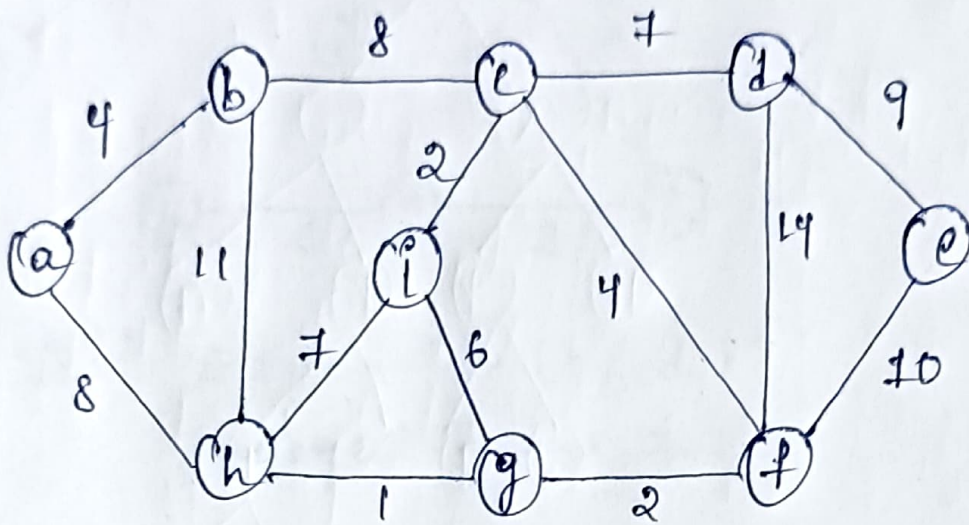
$+ - A * / C 5 2 \% * D 5 4$

c) post-order: left \longrightarrow Right \longrightarrow Root

$A C 5 / 2 * - D 5 * 4 \% +$

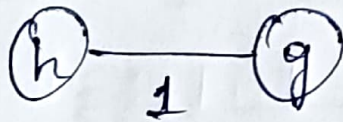
Q. Sol:

Given graph,

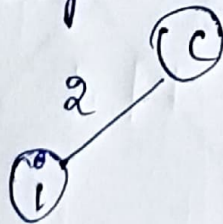


Applying Kruskal's Algorithm:

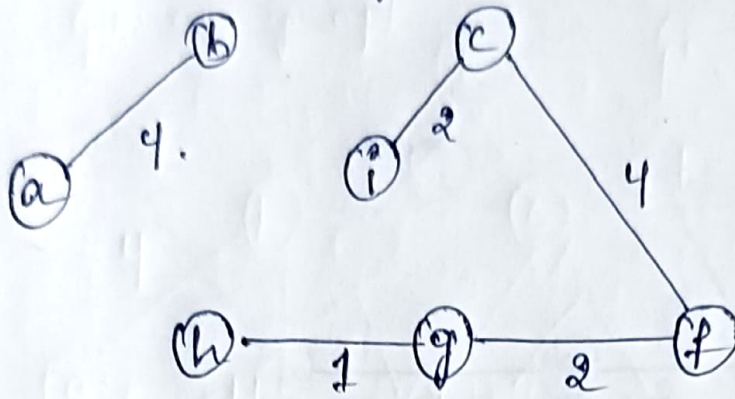
Step 1: Edge $\rightarrow (h, g)$
weight $\rightarrow 1$



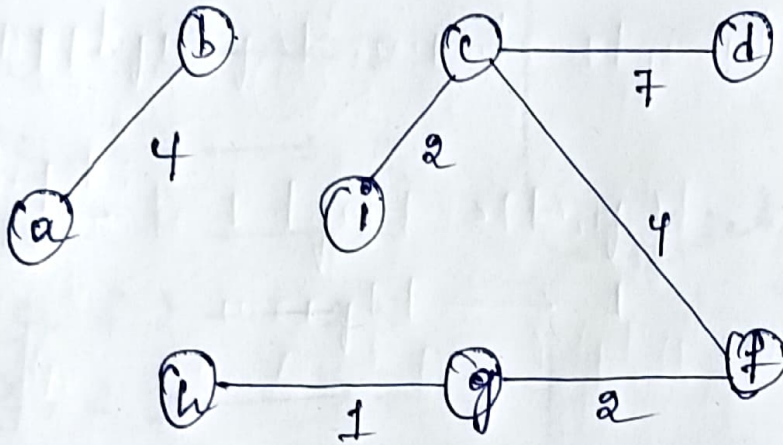
Step 2: Edges $\rightarrow (g, f)$ & (c, i)
weights: 2



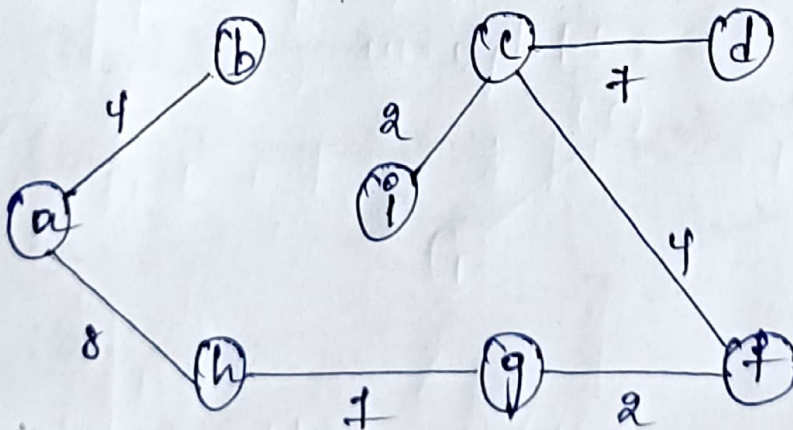
Step 3: Edges $\longrightarrow (t, c)$ & (a, b)
 weights $\longrightarrow 4$



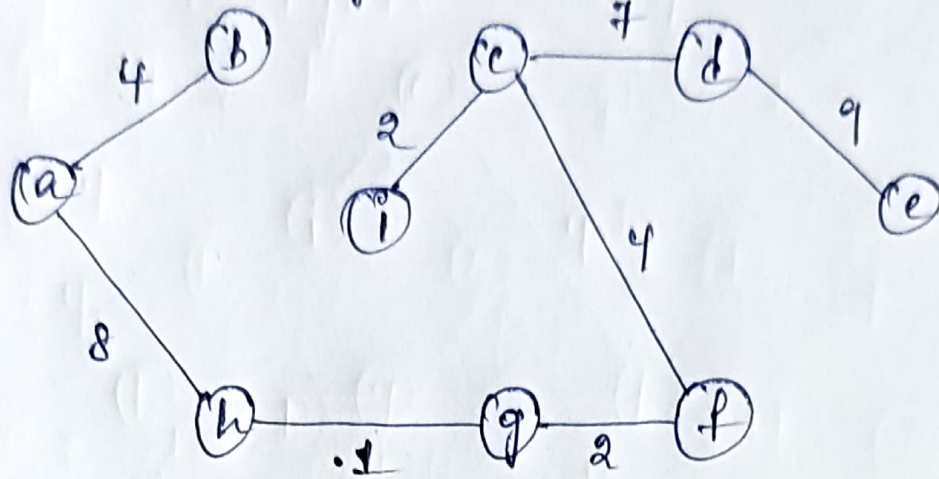
Step 4: Edge $\longrightarrow (c, d)$
 weight $\longrightarrow 7$



Step 5: Edge $\longrightarrow (a, h)$
 weight $\longrightarrow 8$



Step 6: Edge $\rightarrow (d, e)$
weight $\rightarrow 9$



final graph

Edges weights

$(h, g) \rightarrow 1$

$(g, f) \rightarrow 2$

$(c, i) \rightarrow 2$

$(a, b) \rightarrow 4$

$(c, f) \rightarrow 4$

$(c, d) \rightarrow 7$

$(a, h) \rightarrow 8$

$(d, e) \rightarrow 9$

Added to graph

$(i, g) \rightarrow 6$

$(h, i) \rightarrow 7$

$(b, c) \rightarrow 8$

$(e, f) \rightarrow 10$

$(b, h) \rightarrow 11$

$(d, f) \rightarrow 14$

Not added due to MST rules