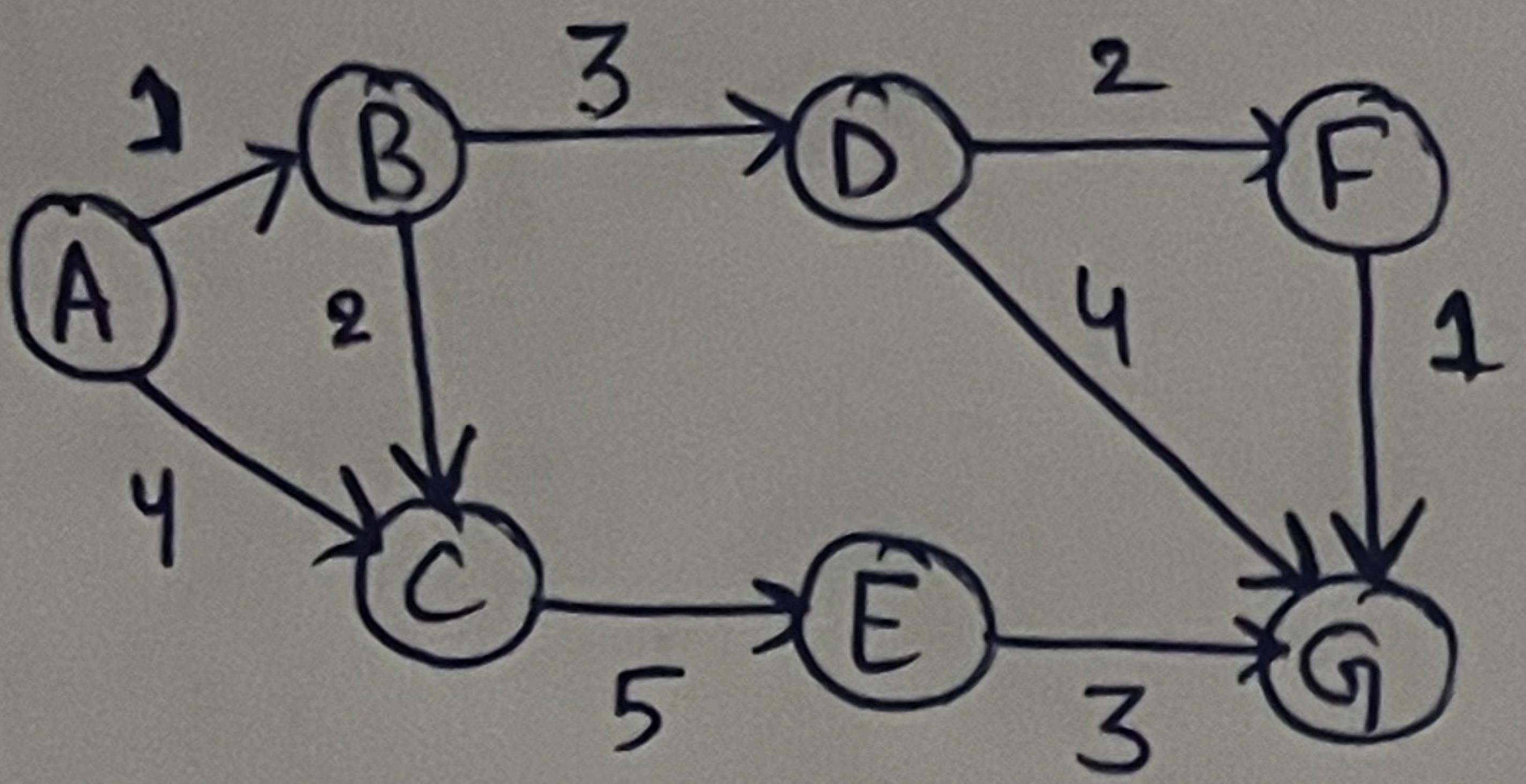


Q1

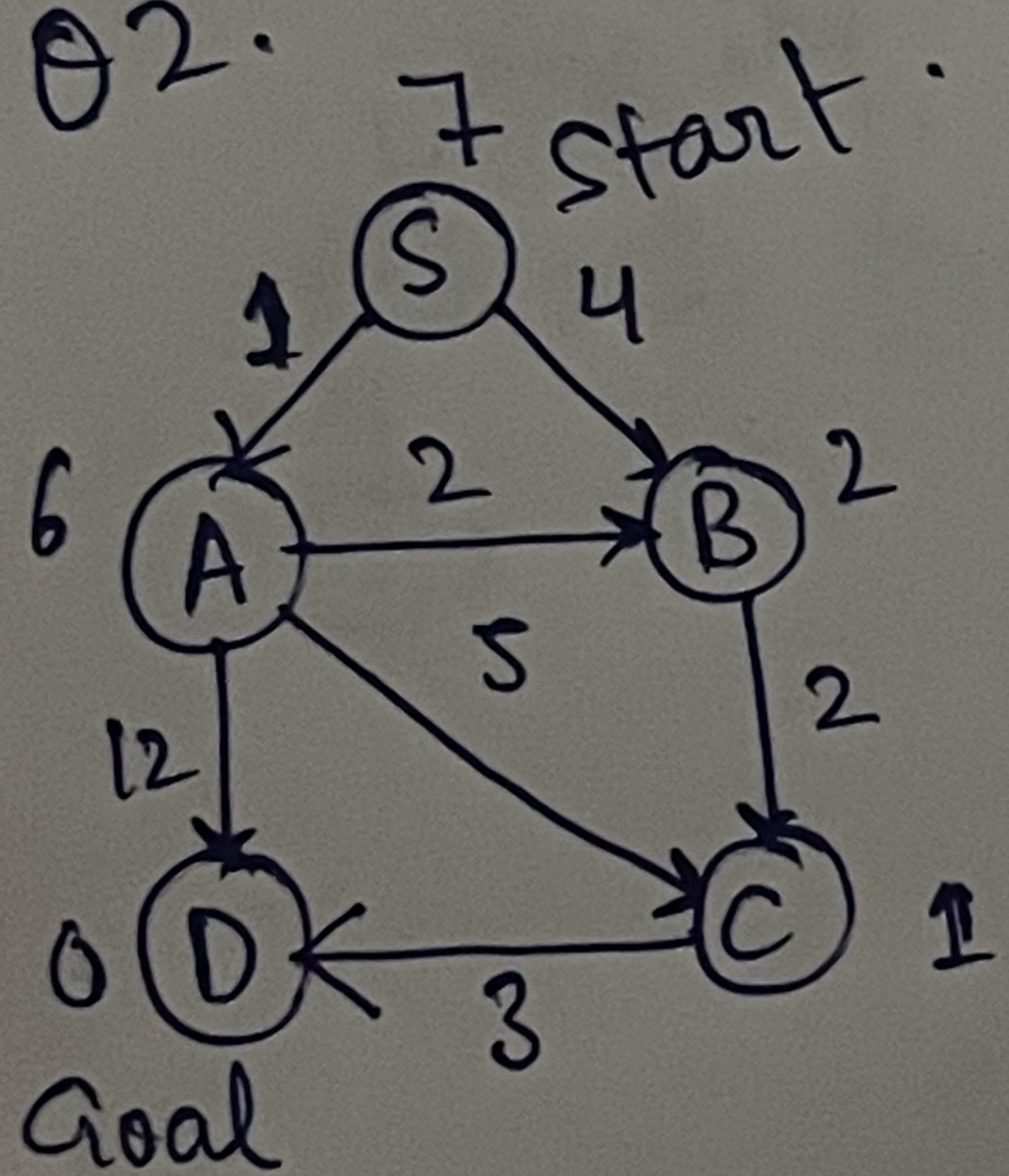


A	5
B	6
C	4
D	3
E	3
F	1
G	0

$$f(n) = g(n) + h(n)$$

Path \rightarrow A \rightarrow B \rightarrow D \rightarrow F \rightarrow G.
 cost : 7

Q2.

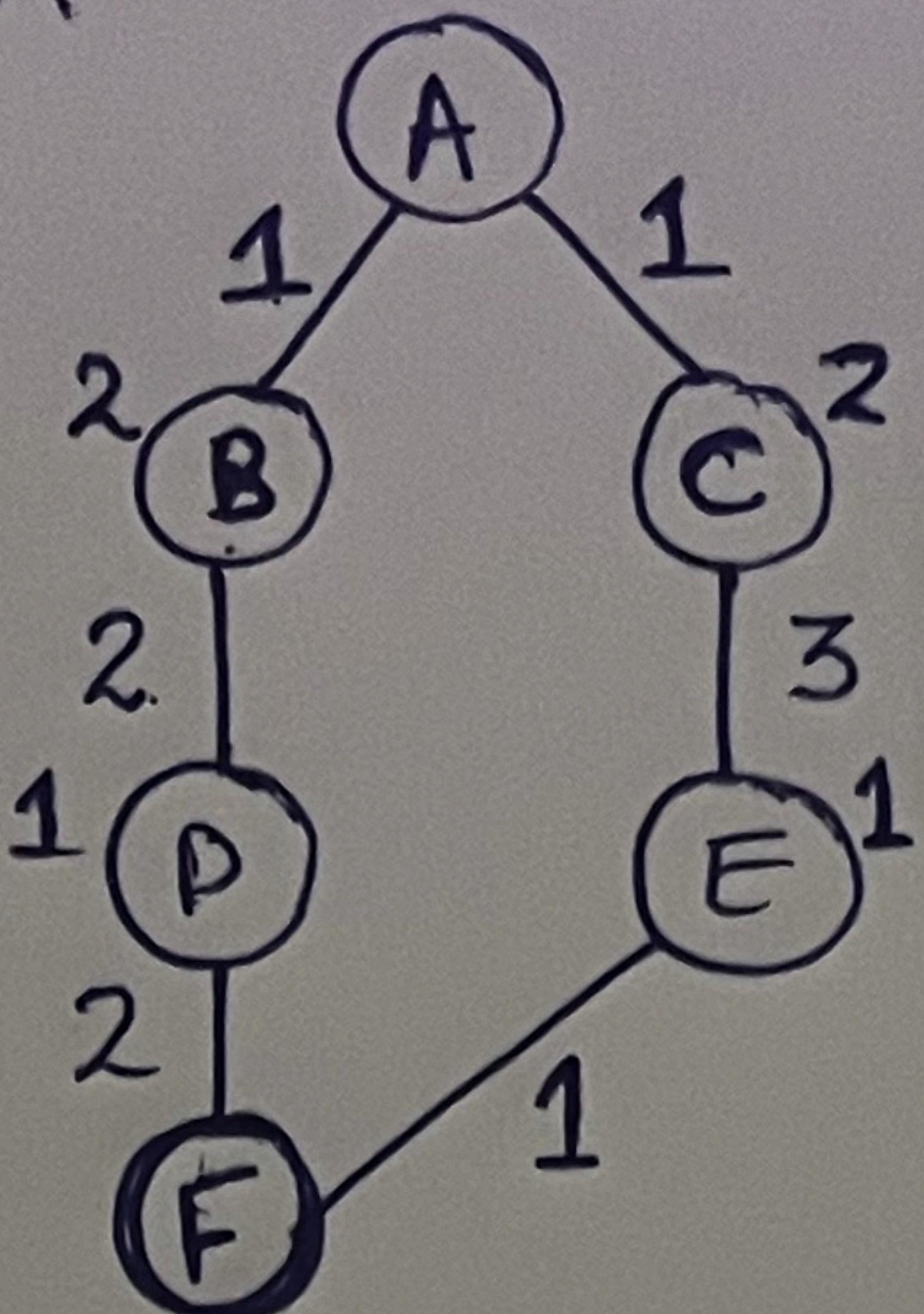


- S \rightarrow A \rightarrow 7
- S \rightarrow B \rightarrow 6
- S \rightarrow B \rightarrow C \rightarrow 7
- S \rightarrow A \rightarrow B \rightarrow 5
- S \rightarrow A \rightarrow C \rightarrow 7
- S \rightarrow A \rightarrow D \rightarrow 13
- S \rightarrow A \rightarrow B \rightarrow C \rightarrow 6
- S \rightarrow A \rightarrow B \rightarrow C \rightarrow D \rightarrow 8
- S \rightarrow B \rightarrow C \rightarrow D \rightarrow 9
- S \rightarrow A \rightarrow C \rightarrow D \rightarrow 9

$$\begin{aligned}
 f(n) &= g(n) + h(n) \\
 &= 9 + 0 \\
 &= 9
 \end{aligned}$$

Path \Rightarrow S \rightarrow A \rightarrow B \rightarrow C \rightarrow D

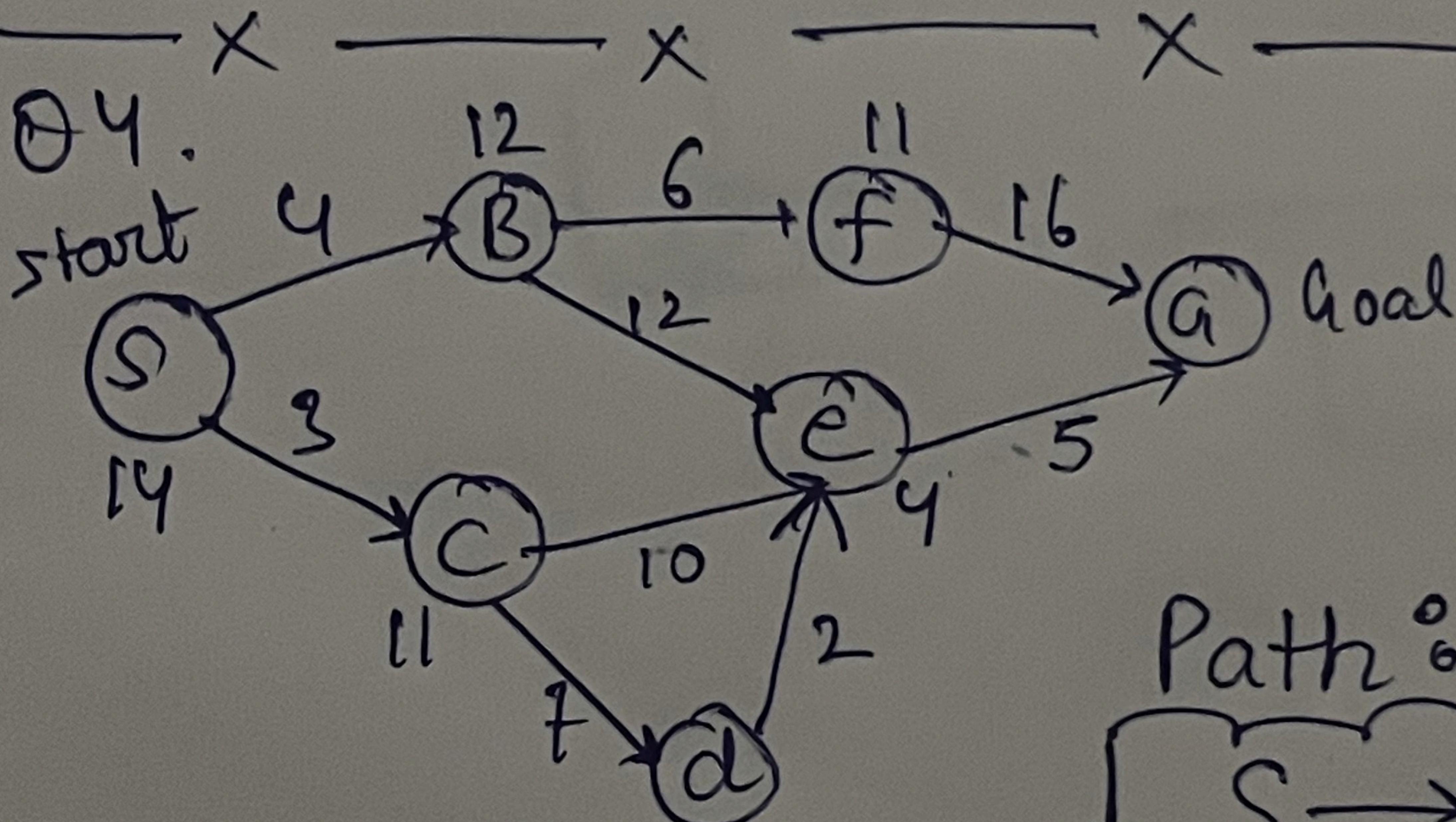
Q3.



$A^* \rightarrow$ Path $f(n) = g(n) + h(n)$

$A \rightarrow B \rightarrow D \rightarrow F$

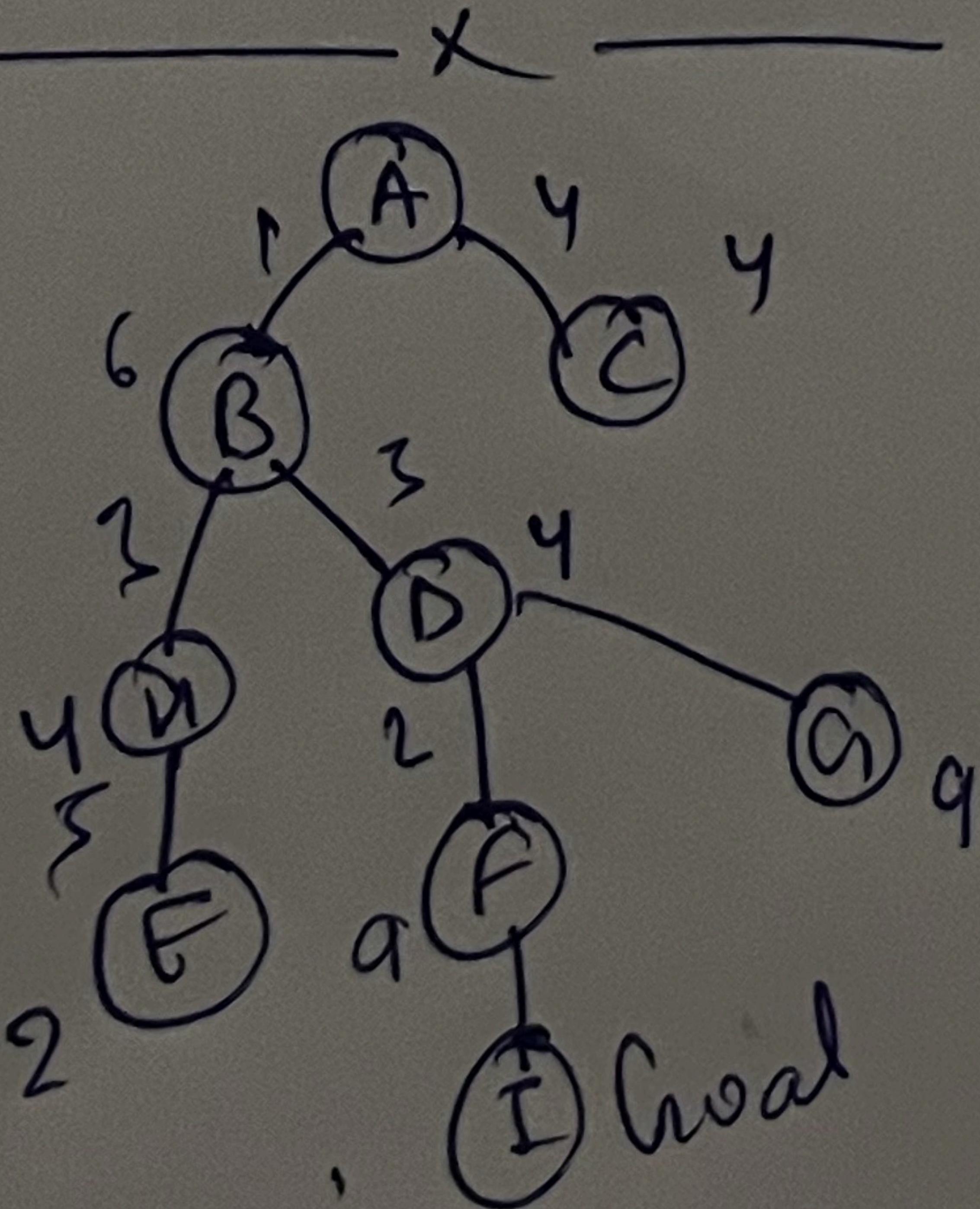
Q4.



Path :

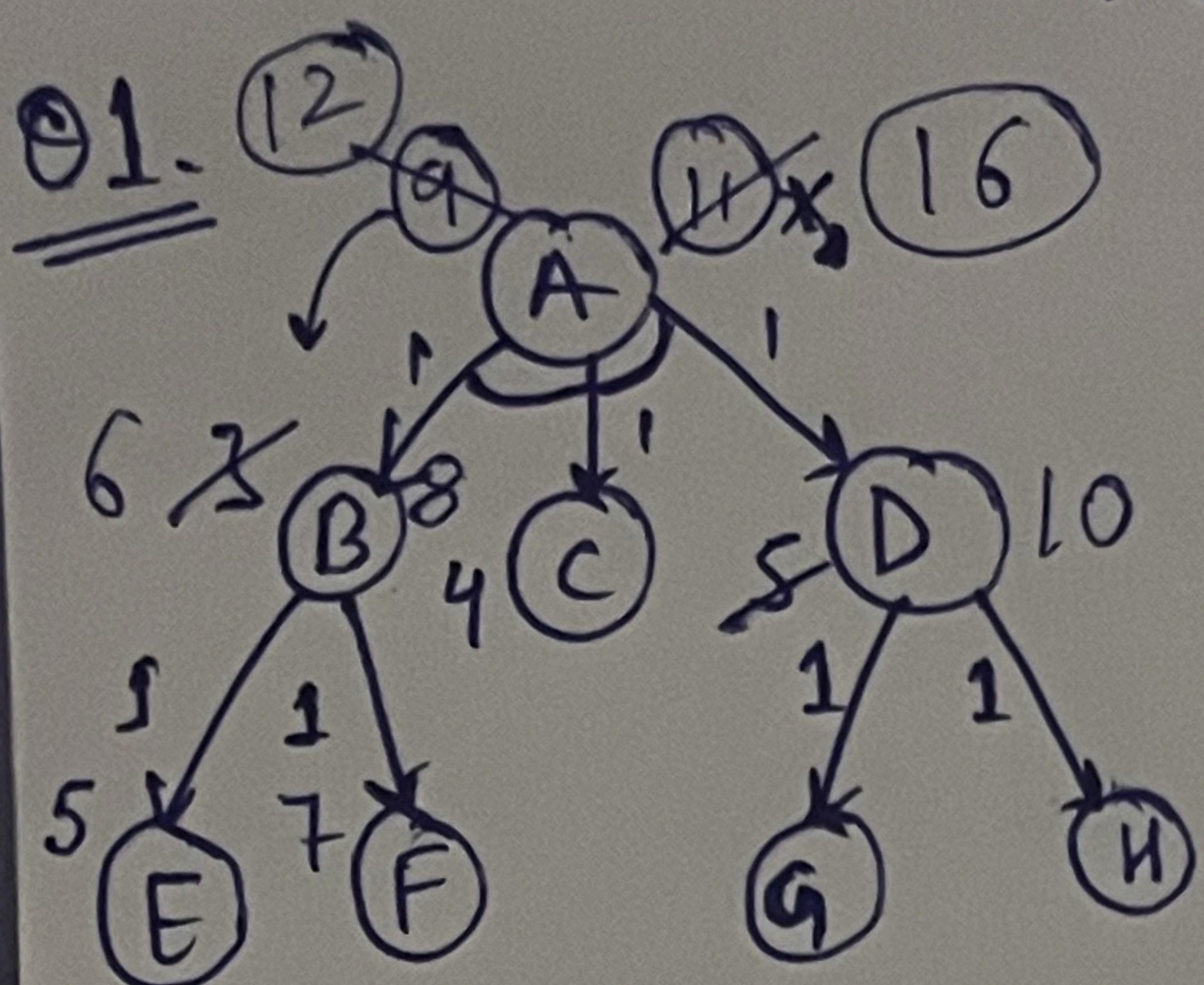
$S \rightarrow C \rightarrow D \rightarrow E \rightarrow G$

$$\checkmark 3 + 7 + 2 + 4 = 16$$

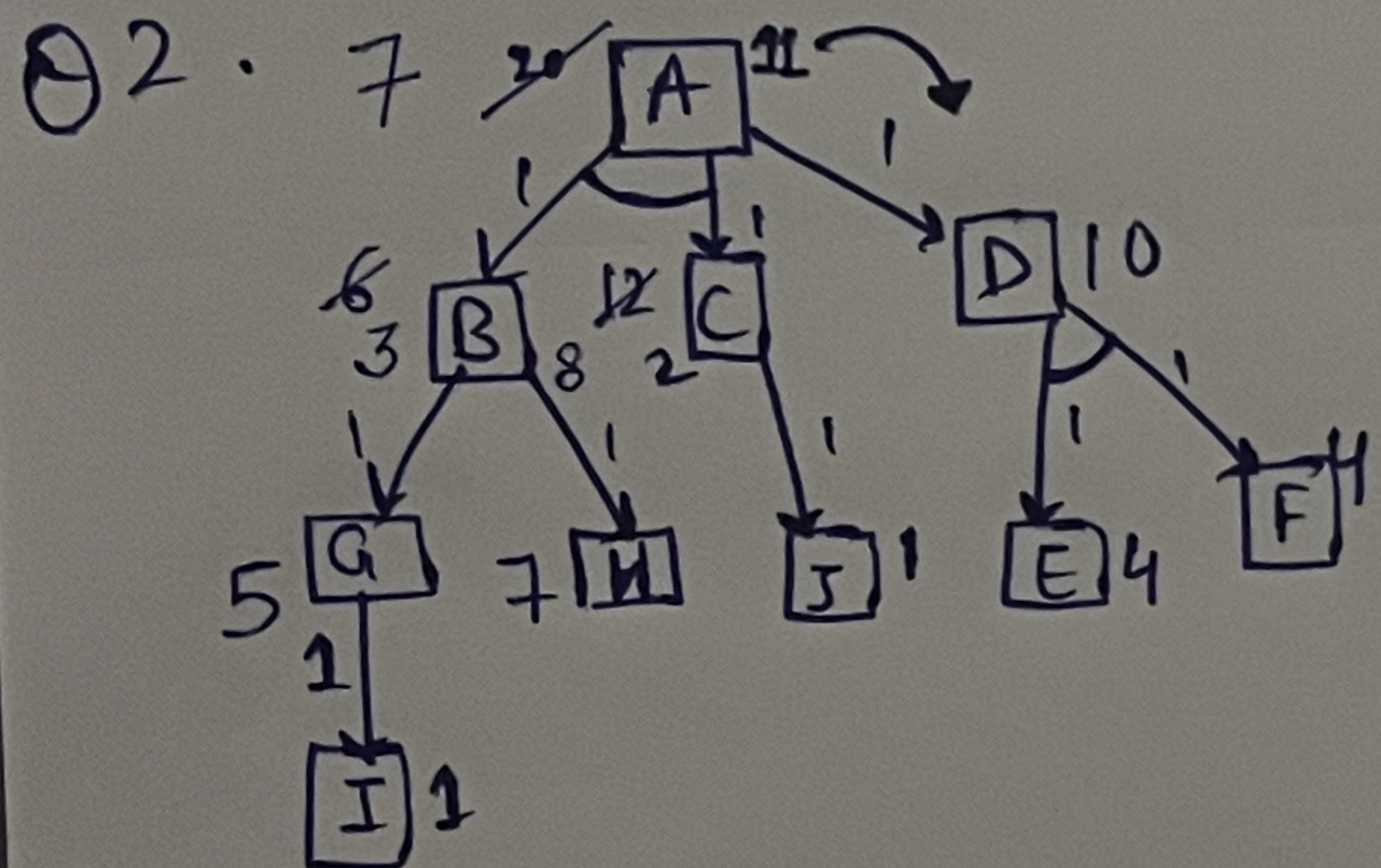
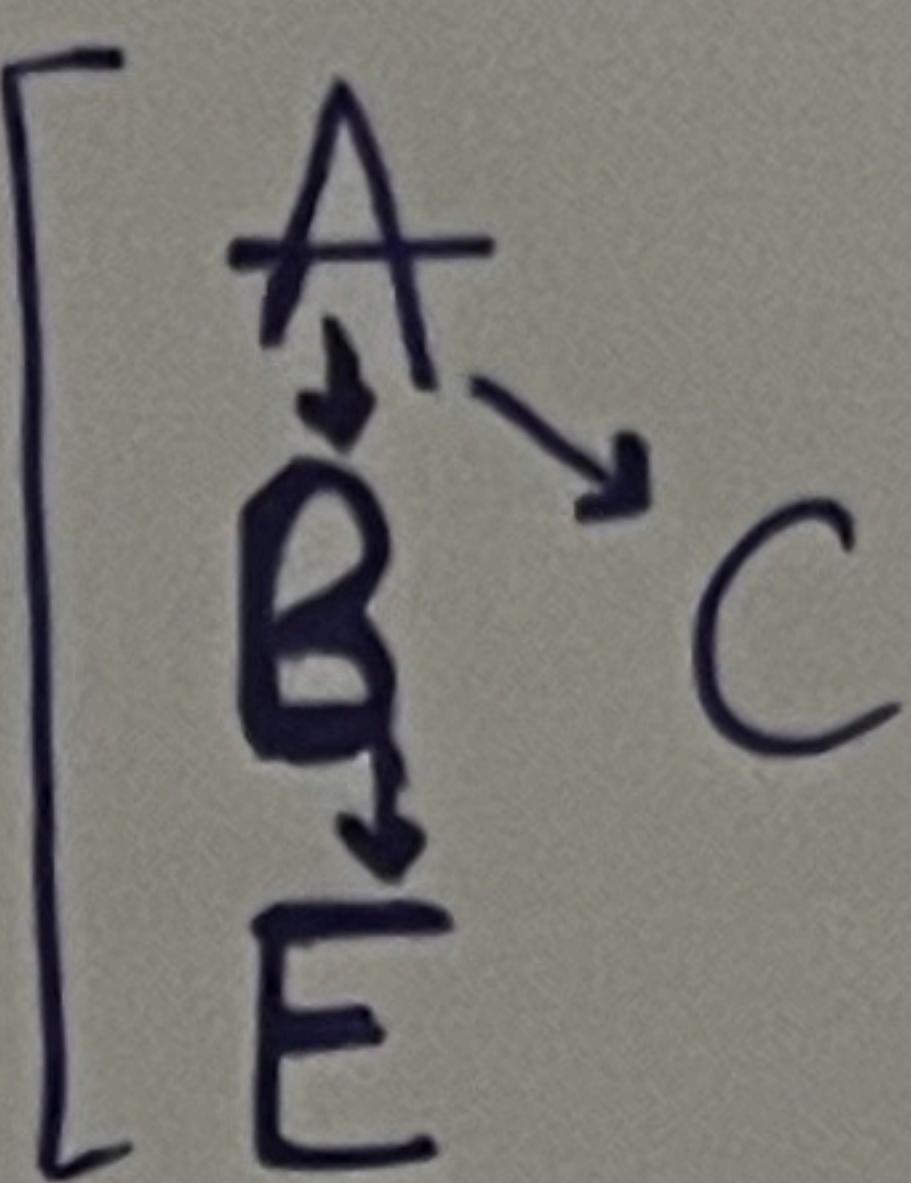


Path $\rightarrow A \rightarrow B \rightarrow D \rightarrow F \rightarrow I$.

A* Search.



$$f(n) = g(n) + h(n).$$

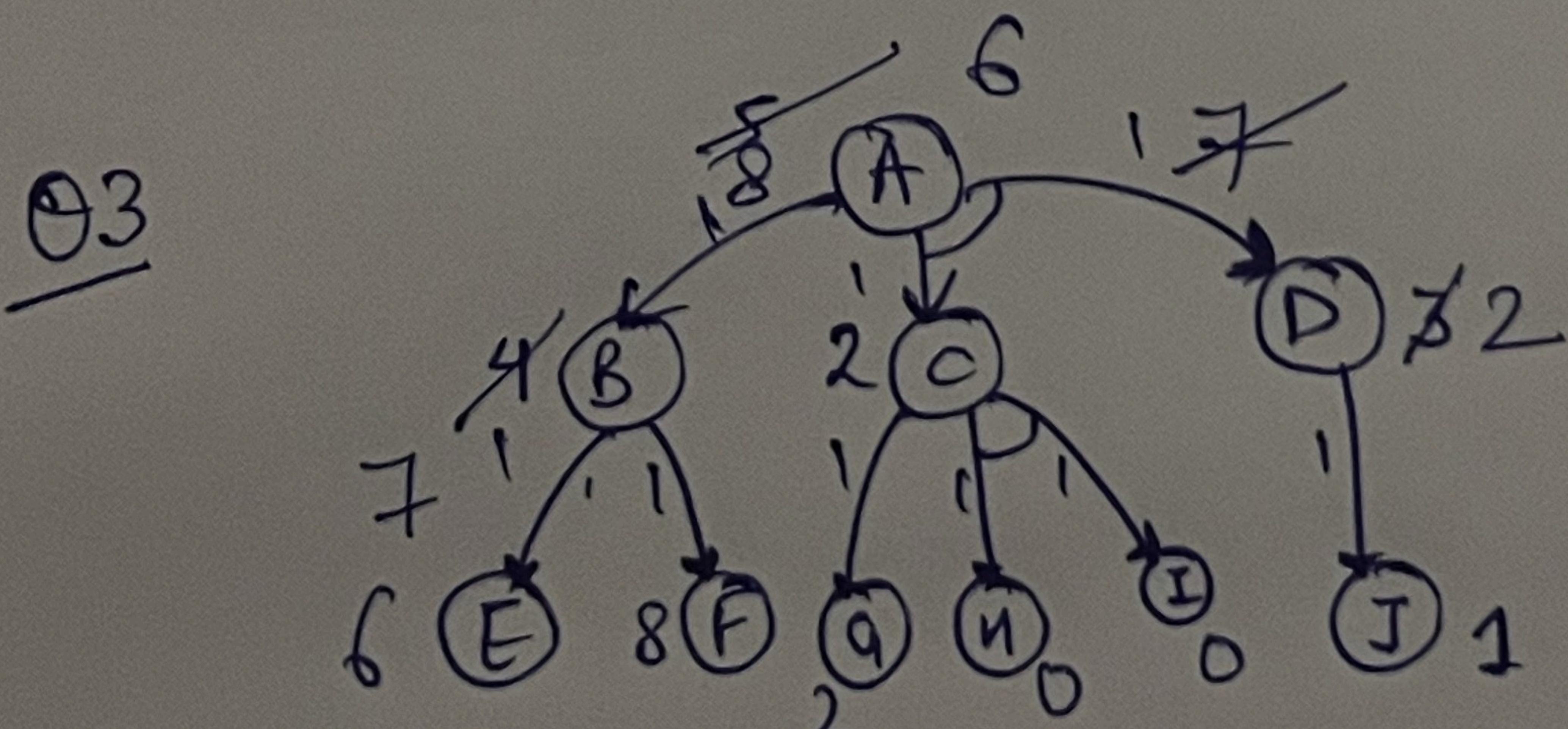


$$F[A-D] = 10 + 1 = 11$$

$$F[A-BC] = 1 + 1 + 6 + 12 = 20$$

$$F[A-BC] = 1 + 1 + 2 + 3 = 7$$

$$< F[A-D] = 11$$



$$f(n) = g(n) + h(n)$$

$$f(A-B) = 5$$

$$f(A-C-D) = g(G) + h(G)$$

$$f(B-E) = g(E) + h(E)$$

$$f(C-F) = g(F) + h(F)$$

$$f(C-H) = g(H) + h(H)$$

$$\boxed{f(A-C-D)}.$$

$f(A-C-D)$
Path Cost $\rightarrow 6$.