

$A \rightarrow B \rightarrow C$

$A \rightarrow B \rightarrow D$

$$g(n) = 8 + 3$$

$$h(n) = 4$$

$$f(n) = 8 + 2 + 3 = 13$$

$$g(n) = 8 + 4$$

$$h(n) = 3$$

number of A elements - 1

$$f(n) = 8 + 3 = 11$$

$$f(n) = 8 + 3 = 11$$

$A \rightarrow B \rightarrow D \rightarrow E$ First step, In $A \rightarrow B \rightarrow C \rightarrow E$ and so

$$g(n) = 6$$
 longest distance of $g(n) = 18$, if $n=9$; (odd)

$$h(n) = 1$$
 if $n=9$ because $h(n) = 3$ even, therefore +

$$f(n) = 8 + 7$$

$$f(n) = 8 + 3 = 11$$
 (longest)

3rd term determines length of (a) 8 + (a) 4 = (a) 12 without units

$A \rightarrow B \rightarrow D \rightarrow C \rightarrow E \rightarrow G$ and so

$$g(n) = 8$$
 number of terms $g(n) = 11$ after doing identity

$$h(n) = 0$$

$$h(n) = 0$$
 because of B pairing

$$f(n) = 8$$

$$f(n) = 11$$

In addition to the graph of both other paths, consider

$A \rightarrow B \rightarrow D \rightarrow E \rightarrow G$ so, (a) 7 elements and so 8

$$g(n) = 7$$
 entry (a) 7 total path = $A \rightarrow B \rightarrow D \rightarrow E \rightarrow G$, part 1

$$h(n) = 0$$
 others long as becoming part of other 9, chain length

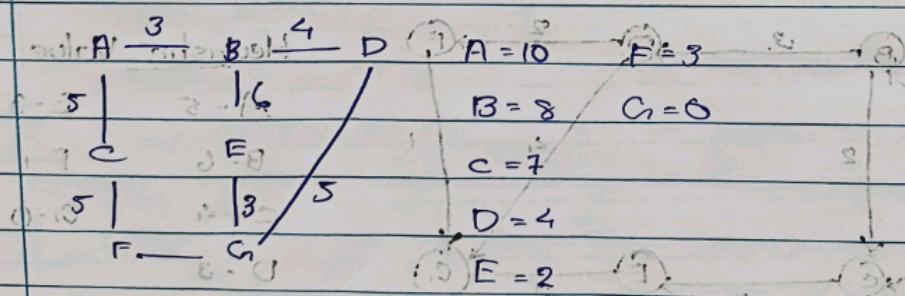
$$f(n) = 7$$

done with regular form

converges to 1

total

1)



$A \rightarrow B$

$$g(n) = 3 + 8 = 11$$

$A \rightarrow C$

$$g(n) = 5 + 7 = 12$$

$A \rightarrow B \rightarrow E \rightarrow G$

$$g(n) = 3 + 6 + 3 = 12$$

$A \rightarrow B \rightarrow E$ etc.

$$g(n) = 8 + 2 = 11$$

$A \rightarrow B \rightarrow D$ (a) 8

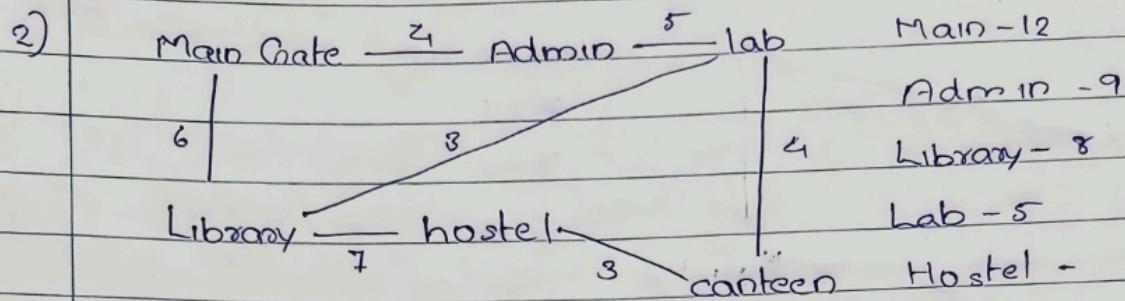
$$g(n) = 7 + 4 = 11$$

$A \rightarrow B \rightarrow D \rightarrow G$

$$g(n) = 3 + 4 + 5 = 12$$

$$8 + 4 + 5 = (a) 17$$

$$F = 3 + 1 = (a) 4$$

 $\text{Main} \rightarrow \text{Admin}$

$$g(n) = 4 + 9 = 13$$

 $\text{Main} \rightarrow \text{Library}$

$$g(n) = 6 + 8 = 14$$

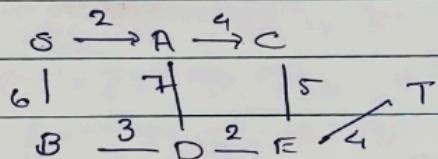
 $\text{Main} \rightarrow \text{Admin} \rightarrow \text{lab}$

$$g(n) = 4 + 5 + 5 = 14$$

 $\text{Main} \rightarrow \text{Admin} \rightarrow \text{lab} \rightarrow \text{canteen}$

$$g(n) = 4 + 5 + 4 + 0 = \underline{\underline{13}}$$

3)

 $S \rightarrow A$

$$g(n) = 2 + 10 = 12$$

1

 $S \rightarrow B$

$$g(n) = 6 + 8 = 14$$

 $S \rightarrow A \rightarrow C$

$$f(n) = 2 + 4 + 6 = 12$$

1

 $S \rightarrow A \rightarrow D$

$$f(n) = 2 + 7 + 5 = 14$$

 $S \rightarrow A \rightarrow C \rightarrow E$

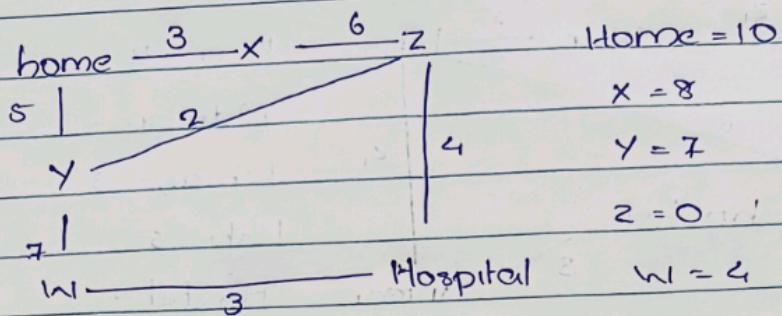
$$g(n) = 2 + 4 + 5 + 0 = 11$$

 $S \rightarrow A \rightarrow C \rightarrow E \rightarrow T$

$$f(n) = 2 + 4 + 5 + 4 + 0 = \underline{\underline{15}}$$

Path = $S \rightarrow A \rightarrow C \rightarrow E \rightarrow T$ Cost = 15

5)

Home \rightarrow X

$$f(n) = 3 + 8 = 11$$

Home \rightarrow Y

$$f(n) = 5 + 7 = 12$$

Home \rightarrow X \rightarrow Z \rightarrow Hospital

$$f(n) = 3 + 6 + 0 = 9$$

$$f(n) = 3 + 6 + 4 + 0 = \underline{\underline{13}}$$

 \therefore Path = Home \rightarrow X \rightarrow Z \rightarrow HospitalCost = 13*) Closed

1)

2) Home

3) Home, X

4) Home, X, Z

5) Home, X, Z, Hospital

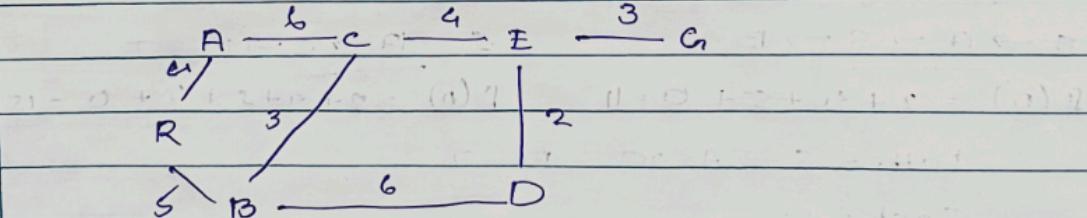
Open

Home

X \rightarrow {Home, Z}Z \rightarrow {X, Y, Hospital}

Goal Reached:

6)

R \rightarrow A

$$f(n) = 4 + 9 = 13$$

R \rightarrow B

$$f(n) = 5 + 8 = \underline{\underline{13}}$$

R \rightarrow A \rightarrow C

$$f(n) = 10 + 6 = \underline{\underline{16}}$$

R \rightarrow B \rightarrow C

$$f(n) = 8 + 6 = \underline{\underline{14}}$$

R \rightarrow B \rightarrow D

$$f(n) = 11 + 5 = \underline{\underline{16}}$$

Date:-

$$R \xrightarrow{\quad} B \xrightarrow{\quad} C \xrightarrow{\quad} F$$

$$R \xrightarrow{\quad} B \xrightarrow{\quad} C \xrightarrow{\quad} F \xrightarrow{\quad} G$$

$$P(n) = 12 + 0 = \underline{\underline{12}}$$

$$P(n) = 15 + 0 = \underline{\underline{15}}$$