



भारत सरकार

Government of India



Saini Mudi

Date of Birth/DOB: 22/07/2001

Female/ FEMALE



8109 1197 1208

VID: 9103 1377 0209 0173

मेरा आधार, मेरी पहचान

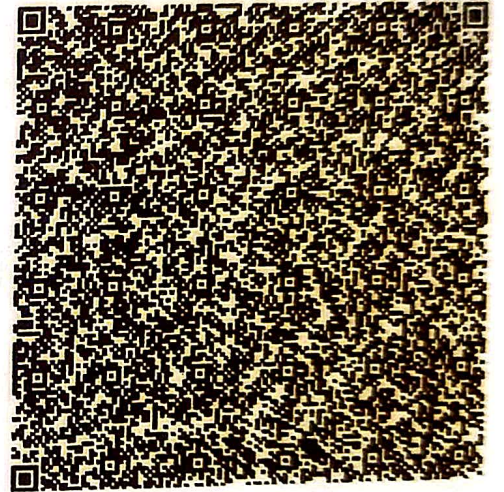


भारतीय विशिष्ट पहचान प्राधिकरण

Unique Identification Authority of India

Address:

D/O Srinath Mudi, Gopalpur, Near
Uttarayan Kali Mandir, Asansol (m Corp.),
Barddhaman,
West Bengal - 713304



QR Code with Photograph

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Marks: CO-1

CO-2

CO-3

CO-4

CO-5

CO-6

TOTAL



2023

22419

ASANSOL ENGINEERING COLLEGE

M.Tech / MCA / B.Tech

Name: SAINI MUDI

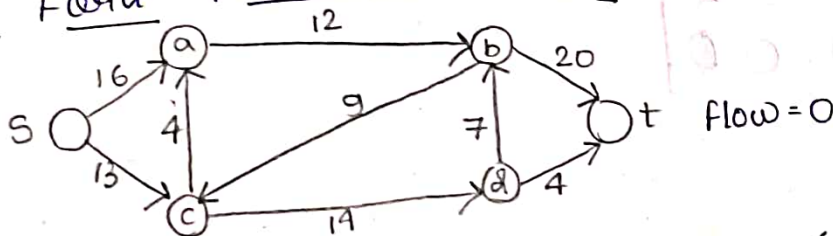
Dept: CSE Year: 3rd
 Subject: Advanced Algorithm Code: PEC-IT601A
 Class Test: I / II / III / IV Sem: 6th
 Ph. No. 6296510821 Sec: A
 Roll No. 10800121050 Date: 28.03.2024

SECTION-A

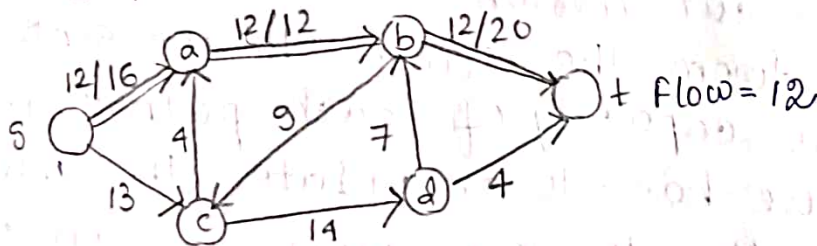
1. $O(V+E)$
2. In BFS we use Queue data structure and in DFS Stack data structure
7. greater or equal
4. ~~weighted directed graph~~. Directed Acyclic Graph
5. ~~$O(m+k)$~~ $O(m+k)$

SECTION-B

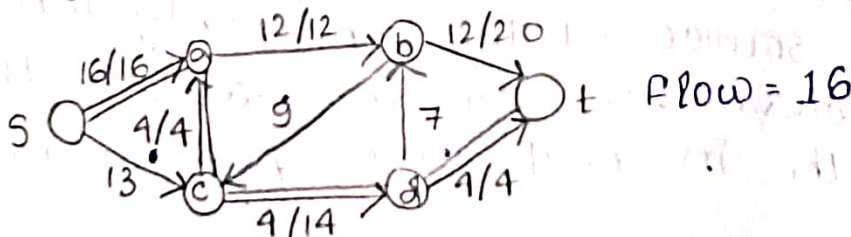
12) Ford - Fulkerson Method



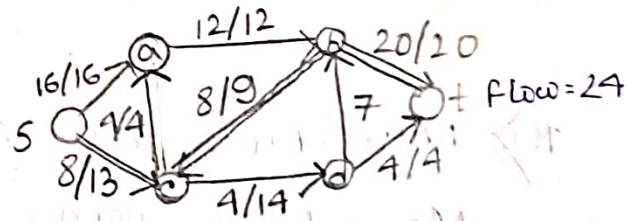
$S \rightarrow a \rightarrow b \rightarrow t$



$S \rightarrow a \rightarrow c \rightarrow d \rightarrow t$



$S \rightarrow c \rightarrow b \rightarrow t$

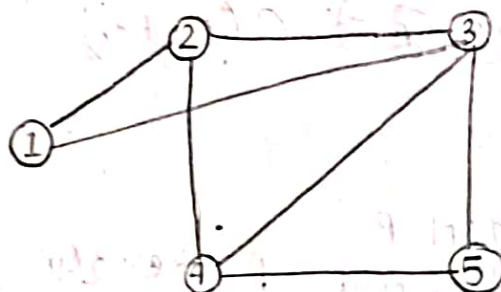


<u>Paths</u>	<u>flow</u>
$s \rightarrow a \rightarrow b \rightarrow t$	12
$s \rightarrow a \rightarrow c \rightarrow d \rightarrow t$	4
$s \rightarrow c \rightarrow b \rightarrow t$	8
	<u>24</u>

Maximum Flow value = 24 .

11)

	1	2	3	4	5
1	0	1	1	0	0
2	0	0	1	1	0
3	0	0	0	1	1
4	0	0	0	0	1
5	0	0	0	0	0



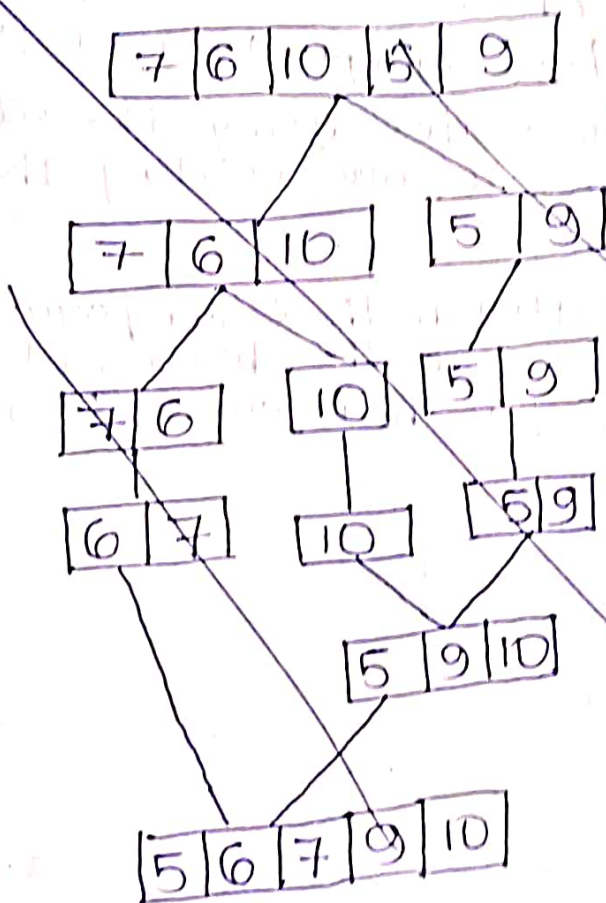
10) Max-flow min-cut theorem :-

Max-flow min-cut theorem is used to find the maximum flow from the source to the sink. We are given the capacity of each path and from these we have to calculate the maximum flow of each path. We are given a source and a sink. There should only be ~~inflow~~ outflow from source vertex and only inflow to the sink vertex. We need to calculate the augmenting path in each case for calculating

the maximum flow from the network.

Residual Network :- Residual Network is the ~~are~~ ~~get~~ network we get by calculating the maximum flow from a particular path in a network. We chose a particular path in a network, then we calculate the flow from it and this path is known as the Residual Network.

14) Quick Sort



P.T.O →

In Quick Sort, first we divide the array of numbers into sub-arrays and further into sub-arrays. Then we sort the numbers in ascending order from these sub-arrays. And then again we join these

9) Ford - Fulkerson method time complexity is $O(V * E)$ where V is the vertices including the source and the sink and E is the maximum flow ^{through} edges joining the vertices. For finding the maximum flow, we need to check all the vertices at least once and so visit all the edges. Hence, time complexity is $O(V * E)$. $O(V * E)$ visiting each vertex using the edge as many times as we are visiting the vertices.

Edmond - Karp is a better method compared to Ford - Fulkerson because all the disadvantages of Ford - Fulkerson has been corrected in it.



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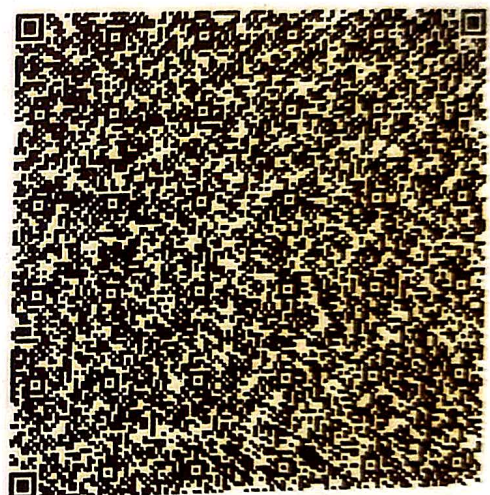


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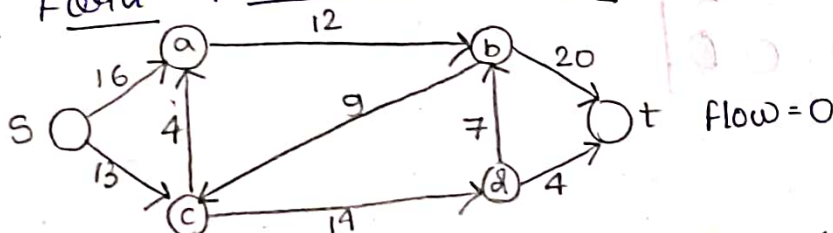
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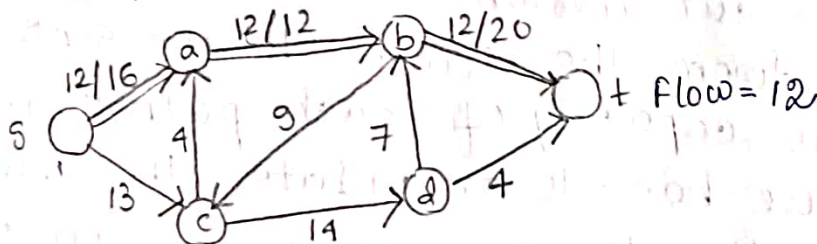
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SECTION-B

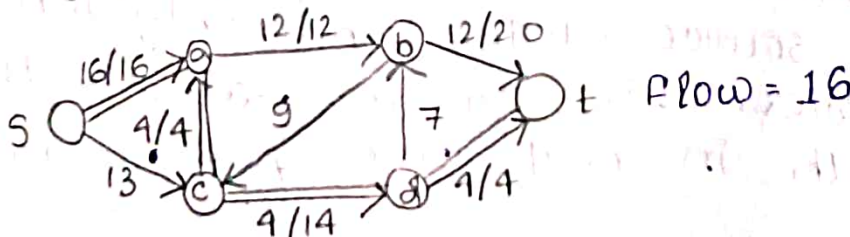
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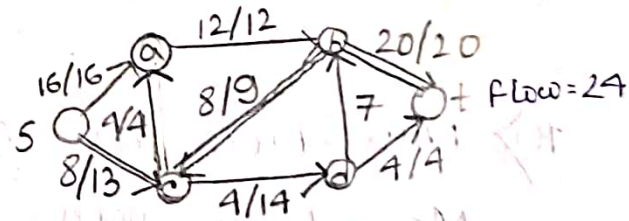
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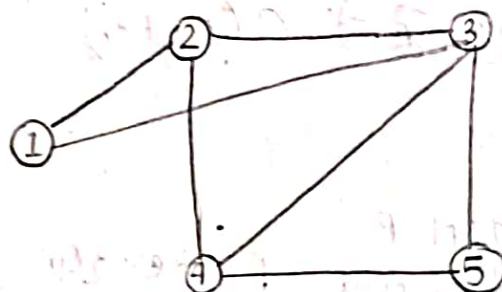


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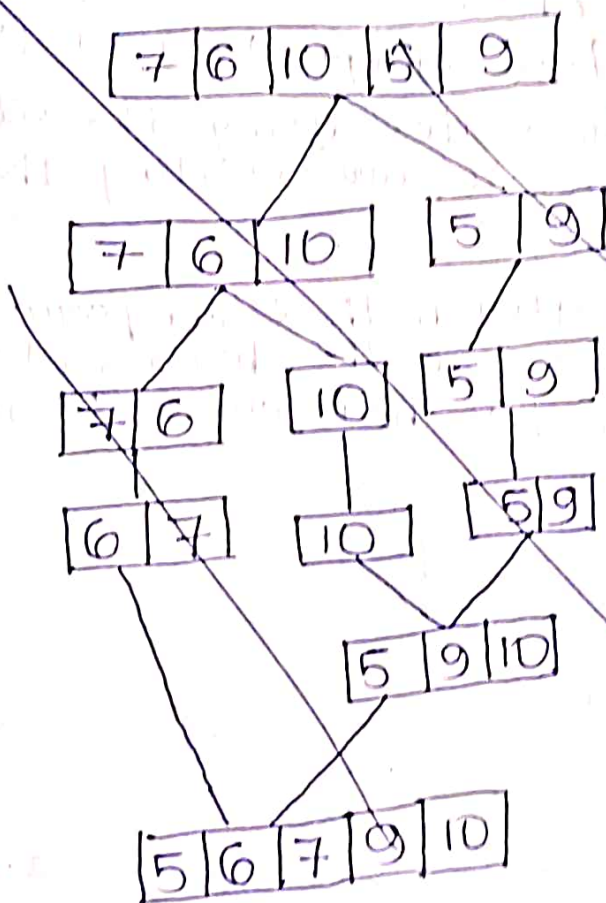
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