	Section - CSI	
	class Roll No 25	PAGE
	Univ. Roll No 2017576	Daniel Branch State Stat
	Tutohial-6	
1.	What do you mean by minimum	spanning thee? What also the
1.	applications of MST?	
	all medians of 181.	2 : a subset of the edges of a
11.	A minimum spanning thee (MST) is a subset of the edges of a
	ban solal alan uniohtad und	The cited and on the connects
	the vertices together, without	any cycles & with minimum possible
	total edge weight.	
	7	
	Madisations P MCT.	
	Applications of MST:	A la contraction of the second
		contain act allow watch
i)	Design of networks including	complete herworks, surere
	supply networks	
ii	cluster analysis - clustering	points in the plane
in	Constructing thees for broader	asting in computer networks
00	Please analyse the time & spa	co complexity of Prim Kruskal
82.	Nease analyse me time & spa	Thm.
1	Dijestra & Bellman Ford algori	Allere
X2.	Khuskal's Algorithm	4
_	Time complexity = O (IE) logIE	1)
	Space complexity = O(IVI)	
		w/ A
	Prim's Algorithm	
	Time complexity = O (IEI log IVI)	a copy
PART AND DE	Space complexity = 0 (IVI).	
	Sijkstra Algorithm	<u> </u>
and the same of the	Time complexity = O((1V1+1E1))	log V)
	Space complexity = O(IVI+IEI)	
	, 3	

Name-Vansh Kalka

	Date
	Page
	Bellman Fold Algolithm
	Time complexity = O(VE)
	Space complexity = O(V)
3.	Apply Khuskal & Phimis algo on graph to compute MST & its weight?
	<u>(1)</u> (2) (2) (3)
	7 1 11 (1)
	\$ 6 2 S 10
	Khuskal's Algorithm
	REUSICAL S MIGORIANIA
	0 2 0
	2 9
	4 4
	4 1 6 2
-	
	Weight = 428+1+2+412+7+9 = 37.
	million to a monthly and
	Phim's Algorithm
	(1) (2) (3)
	4/
	(a) 4 (b)
	6 7
	2
1	Leight = 37.

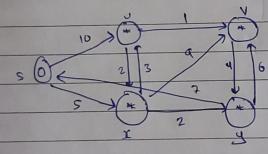
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shortest path from a source vertex 's' to a destination vertex 't'. Does the shortest path remain same in the modified graph in following cases?

Ans The shoutest path may change because there may be different no. of edges in different paths from stot.

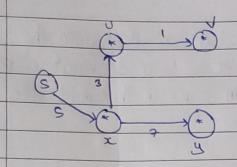
Ins. The shortest path doesn't change because weights of all paths from s to t get multiplied by same amount.

95. Apply Dijkstra & Bellman algorithm on graph to compute shoutest path to all nodes from node S.

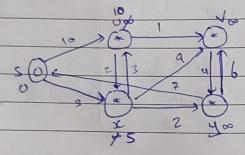


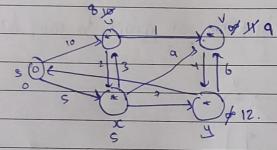
Dijksthais Algorithm

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A STATE OF THE PARTY OF	Source	Dest	ination)		
Control of the last	S	U	V	\propto	y	
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	SX	Ф	03 1	4 8	7	
	CYII	(8)	- 13	(5)	(
	C 1 11 11	6	9	(3)	7	
	3,2,9,0	1				



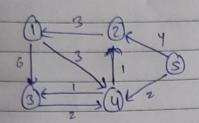
Bellman Ford Algorithm





 $S \rightarrow U \Rightarrow \theta$ $S \rightarrow x \Rightarrow S$ $S \rightarrow v \Rightarrow 9$ $S \rightarrow v \Rightarrow 9$ $S \rightarrow y \Rightarrow 12$

86. Apply all paik shoulest path algorithm - Floyd Warshall on graph & also analyse time & space complexity of algorithm.



						100	а
	1	2	3	4	S		
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3	00	∞	0	2	00		
4	000	1	1		00		
S	00	4	00	2	0	1	

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	S	00	. 4	00	2	0	•

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	12.14	1	12	3	4	S	1	
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	3	6	3	0	2	8		
	4	4	1	1	0	8		
	5	6	3	3	2	0	1	
		1	2	3	4	S	8	
Ds =	1	0	4	4	3	000		
	2	3	0	C	4 6	00		
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	4	1 4	1	•	10	∞		
	S	6	3		3 2	2 0	-	
		WE WIND						

Time Complexity = O(n3)

Space Complexity = O(n2).

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