

Assignment Mo - 6.

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	[may]	Title - Prims Algorithm
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		ing a grant of the single control of the sin
		Problem - Statement - You have a business with
	<u></u>	several office; you want to lease
ı	- 13	phone lines to connect them up with each
	D I	other; and the phone company charges different
mann		amounts of money to connect different pairs Of
Mann		cities. You want a set of lines that connect
		all your office with a minimum total cost.
	Fig. 1 1.23	Solve the problem by Suggesting appropriate data
	1 - 1 V 1	Structures - , and down down the structures
		objectivies - 19 11 19 11 11 11 11 11 11 11 11 11 11
	rt tos:	Student will be able to understand concept of
	Try to ye	minimum Spanning tree with Prims algorithm.
		software requirement
(44444)))		1. 64-bit open source linux or its derivative
10	(100)	2. open source c++ Programming tool like G++ GCC
		3. Turbo C++ Compiler.
	d id	Theory - most a distribution and
		pata structure to be used. Arrays: Two dimensi
	(- + t) F	- onal array (adjacency matrix) to store the
		adjacent vertices & the weights associates edges.
	27-12/17	to close an indicator
	firett y	
	1	ton each verrex whemer
		# define max 20.
-		



int adj-ver [max] [Max]; nint edge + wt [max] [Max]; int ind [Max]; concepts to be used. · Arrays throndold moldage · Function to construct head List & adjacency matrix for a graph. · Function to display adjacency matrix of a graph. . function to generate minimum spanning Tree for a graph using Prim's algorithm spanning Tree - A spanning Tree of a graph G=(V, E) is sub graph of G having all ventices of G and no cycles is it. Periodo . Minimal Spanning Tree - The cost of a graph is the sum of the costs the edges in the weighted graph. In milliper i prometing - when a graph G is connected a deppth first or breadth first search starting at any vertex visits all the vertices in G. - The edges of G in T form a three which includes all the westices of Graph G and this tree is called spanning Tree. Prim's Algorithm - Any Tree, which consists is an algorithm is graph Theory that Finds a minimum Spanning Tree

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	This means it Finds a subset of the edges
A. I.Y.	that forms a tree that includes every vertex,
Ť.	where the total weight of all the edges in the
	tree is minimized
	Prims in 1957 and rediscovered by Edsger Dijkstra
	in 1969.
	Algorithm / pseudo code:
nam _{man}	a connected graph
La relian	are included in the minimum spanning ree
	Prim's Algorithm Starts from one vertex and grows
	the rest of tree by adding one vertex at a time
1 16	by adding associated edge in T.
	void prims (vertexi)
	1. Start
	Q. initialize visited [] to o for (i=0';i <n;i+t)< th=""></n;i+t)<>
A STATE OF THE STA	visited [i]=0;
	3. Find minimum edge from i for (j=0;j <n;j++)< th=""></n;j++)<>
	8
	if (min > a [i][i])
	\$
	min = a [i] [j] x = i;
	Y= j;
	3
	3
	4. print the edge between i and j with weight.
	5. Make visit (i++)=x.



7 c 21 series la series
visit [j+t]=> visit [j+t]=> visit [j+t]=> visit [j+t]=>
visit [j+t]= Visit [j+t]= 6. Find next minimum edge Starting From
7. Repeat Step 6 until all the nodes are
visited.
conclusion- Thus we have betudied mand imple - mented minimum in Spanning of Tree
mented minimum opanion Algorithm
concept with the help of Prims Algorithm.
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a course on paidon put out to team out
by adding accordated range in T.
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in the solve the section of the sect
Eind minimum sedge strem i frelje
(Eight of aim) 27
ii x [i] Fi] p = nim
the second secon
State of the state
a plane the edge between i end i
X=[++i]+iny 28011 3