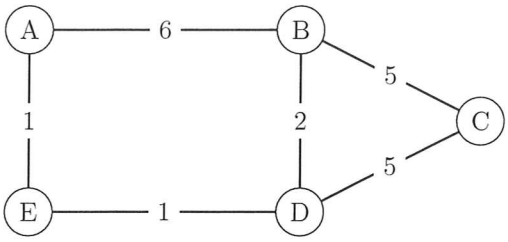
Dijkstra's Algorithm Name: Jerry Jiang 6

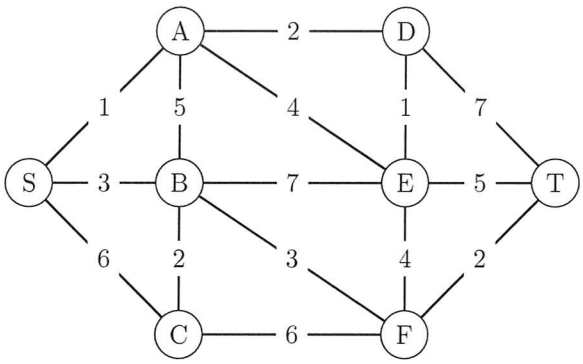
1. Use Dijkstra's algorithm in table form to find the shortest path from A to C in the weighted graph below.



	A	B	C	D	E
A	[0]	6			1
E				2	[1]
D		4	7	[2]	
B		[4]			
C			[7]		

AEDC 7.

2. Use Dijkstra's algorithm in table form to find the shortest path from S to T in the weighted graph below.



	S	A	B	C	D	E	F	T
S	[0]	1	← 3	6				
A		[1]			3	5		
B			[3]	5		← 6		
D					[3]	4		10
E						[4]		9
C				[5]				
F						[6]	← 8	
T							[8]	

SBFT 8.

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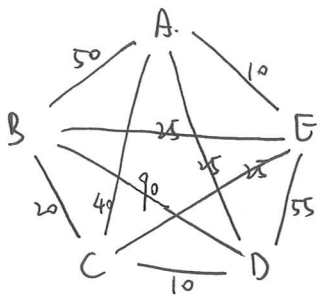
3. Draw the weighted graph corresponding to the table of weights below. Now grow a shortest path spanning tree rooted at A to find the shortest path from A to each of the other vertices.



	A	B	C	D	E
A	–	50	40	25	10
B	50	–	20	90	25
C	40	20	–	10	25
D	25	90	10	–	55
E	10	25	25	55	–

	A	B	C	D	E
A	[0]	50	40	25	10
E		35	35		[10]
D				[25]	
C			[35]		
B		[35]			

To E : AE 10

To D : AD 25

To C : AEC 35

To B : AEB 35