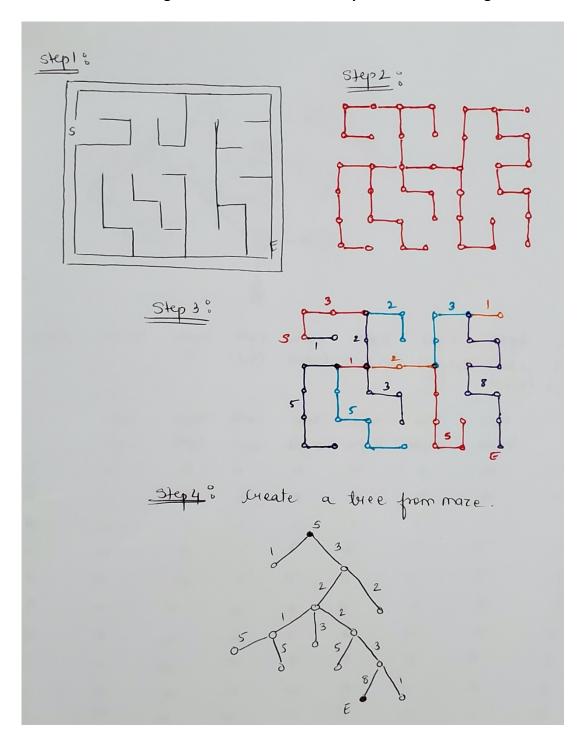
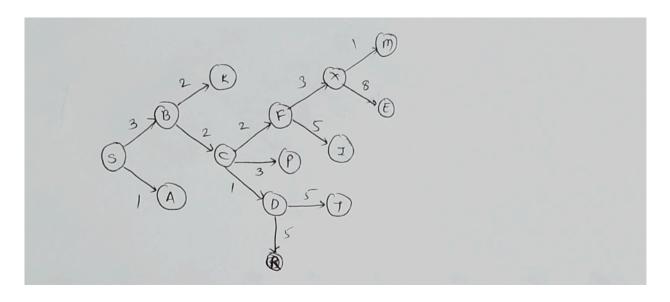
CS501 Homework 12

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Q7 ==> Use Bellman Ford Algorithm to find the shortest path of the following maze





Step 1: Initialization

Next node to visit => B

S	Α	В	С	K	Р	D	F	R	T	I	Χ	М	E
0	8	8	8	8	8	8	8	8	8	8	8	8	8

Step 2: 0+1 < ∞. Change the value of A to 1 0+3 < ∞. Change the value of B to 3

Next node to visit => B

S	Α	В	С	K	Р	D	F	R	Т	ı	Χ	М	Е
0	1	3	∞	8	∞	∞	8	8	8	∞	∞	8	8

Step 3: $3+2=5 < \infty$. Change the value of k to 5

3+2=5 < ∞. Change the value of C to 5

Next node to visit => C

S	Α	В	С	K	Р	D	F	R	Т		Χ	М	Ε
0	1	3	5	5	8	8	8	8	8	8	8	8	∞

Step 4: $5+1=6 < \infty$. Change the value of D to 6

5+2=7 < ∞. Change the value of F to 7

5+3=8 < ∞. Change the value of P to 8

Next node to visit => D

	Track trade to track 1													
S	Α	В	С	K	Р	D	F	R	Т	ı	Χ	М	Е	
0	1	3	5	5	8	6	7	~	~	~	8	8	8	

Step 5: $5+6=11 < \infty$. Change the value of T to 11 $5+6=11 < \infty$. Change the value of R to 11

Next node to visit => F

S	Α	В	С	K	Р	D	F	R	Т	I	Χ	М	Ε
0	1	3	5	5	8	6	7	11	11	8	8	8	8

Step 6: $7+5=12 < \infty$. Change the value of I to 12 $7+3=10 < \infty$. Change the value of X to 10

Next node to visit => X

S	Α	В	С	K	Р	D	F	R	Т	I	Χ	М	Е
0	1	3	5	5	8	6	7	11	11	12	10	8	~

Step 7: $10+1=11 < \infty$. Change the value of M to 11 $10+8=18 < \infty$. Change the value of E to 18

S	Α	В	С	K	Р	D	F	R	T	I	X	М	Ε	
0	1	3	5	5	8	6	7	11	11	12	10	11	18	

The process ends at cycle one as there are no vertices to change.