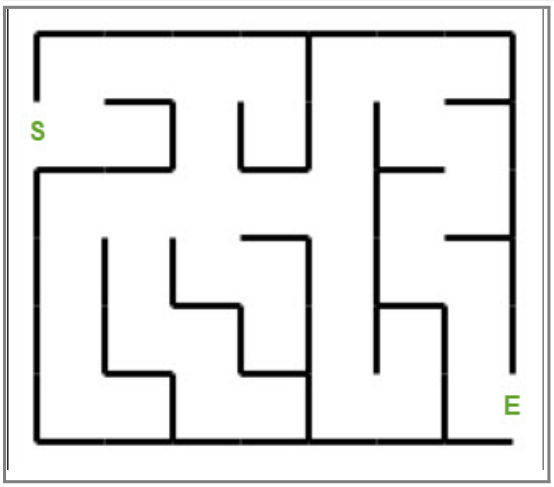
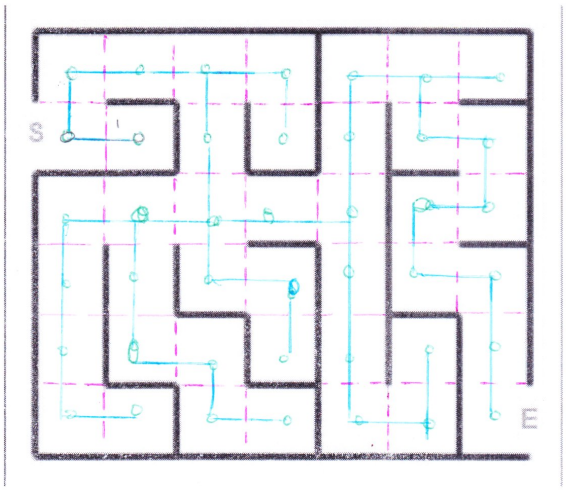
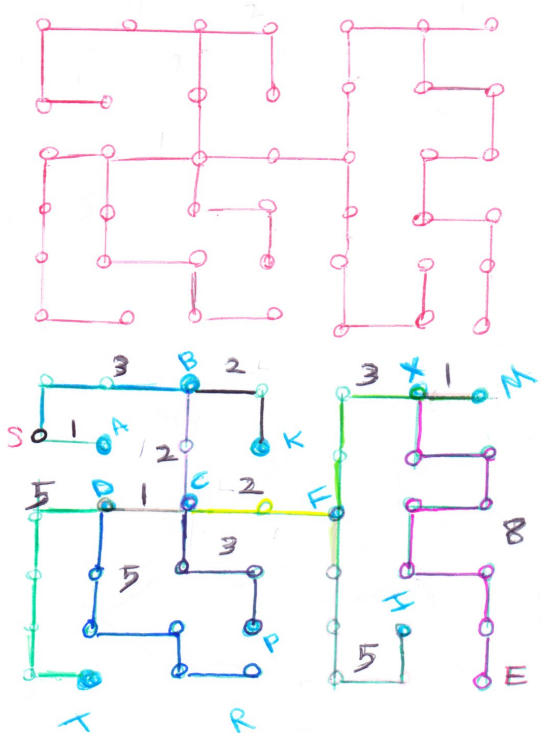
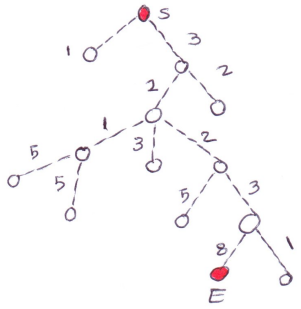
Question 7:Use Bellman Ford Algorithm to find the shortest path of the the following maze		

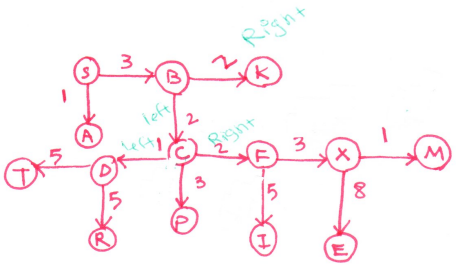


- References
  - Maze
  - Shortest Path


S
E

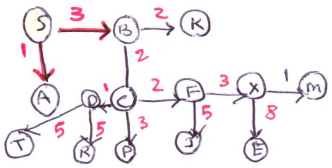

3
B
2
3
X
1
M
S
1
A
2
K
5
D
1
C
2
F
8
3
5
H
P
5
E
T
R


S
E


S
B
K
A
C
F
X
M
T
D
R
P
I
E
left
right
left
right

Cycle1

(S)

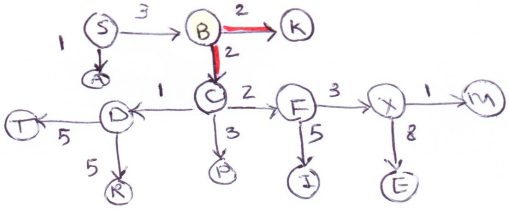


As you know $0+1<\infty$ → A's value changed to 1, From A there is not path to get E,

and $0+3<\infty$ → B's value changed to 3

S	A	B	C	K	P	D	F	R	T	I	X	M	E
0	1	3	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞	∞

(B)

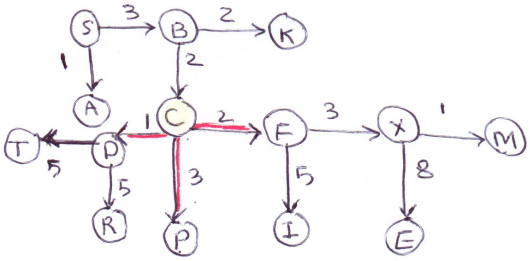


As $3+2=5<\infty$, k's value changed to 5, From C to E there is not path to get E,.

As $3+2=5<\infty$, C's value changed to 5

S	A	B	C	K	P	D	F	R	T	I	X	M	E
0	1	3	5	5	∞	∞	∞	∞	∞	∞	∞	∞	∞

(C)



As $5+1=6 \Rightarrow 6<\infty$, D's value changed to 6

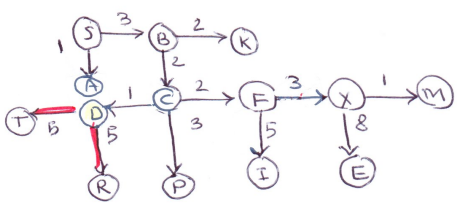
As $5+2=7 \Rightarrow 7<\infty$, F's value changed to 7

As $5+3=8<\infty \Rightarrow$ P's value Changed to 8, $\Rightarrow$ From P we have not Path to get E.

S	A	B	C	K	P	D	F	R	T	I	X	M	E
0	1	3	5	5	8	6	7	∞	∞	∞	∞	∞	∞

3

D

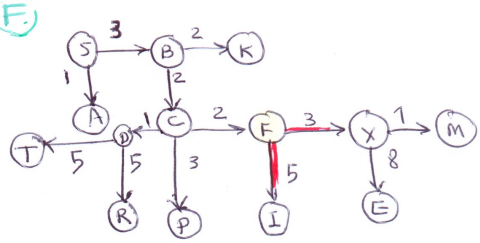


S	A	B	C	K	P	D	F	R	T	I	X	M	E
0	1	3	5	5	8	6	7	11	11	∞	∞	∞	∞

As $5+6=11<\infty$, T's value changed to 11, But there is not anyway from T to get E.

As $5+6=11<\infty$, R's value changed to 11, But there is not anyway from R to E

F

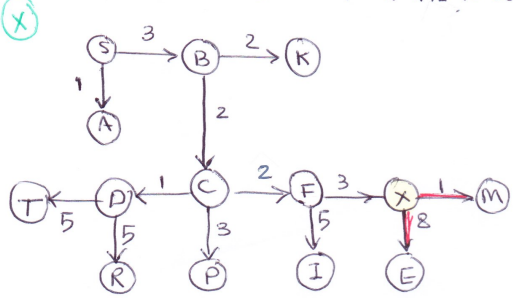


S	A	B	C	K	P	D	F	R	T	I	X	M	E
0	1	3	5	5	8	6	7	11	11	12	10	∞	∞

As $7+5=12<\infty$, I's value changed to 12, but there is no way From I to E.

A's $7+3=10<\infty \rightarrow$ X's value $\rightsquigarrow$ 10

X



S	A	B	C	K	P	D	F	R	T	I	X	M	E
0	1	3	5	5	8	6	7	11	11	12	10	11	18

As $10+1=11<\infty$, M's value changed to 11, but no way to get From M to E

As $10+8=18<\infty$, E's value changed to 18, we are in the End

The process End at Cycle one As there are no vertices to change.