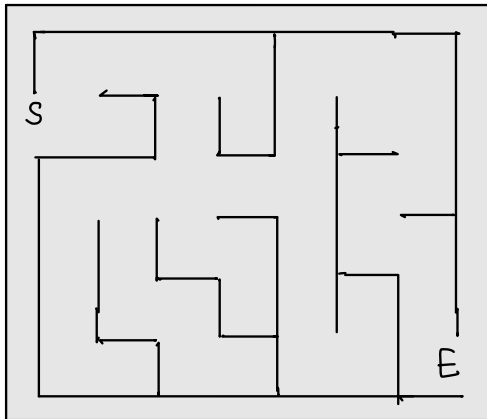
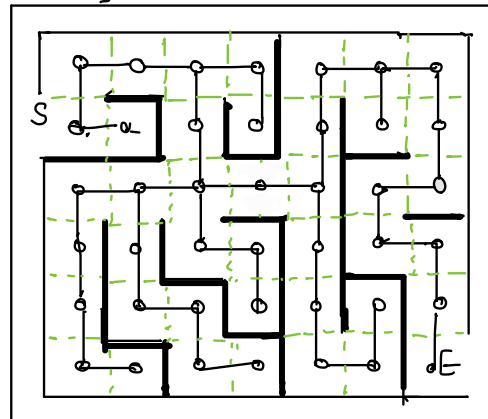


Q.

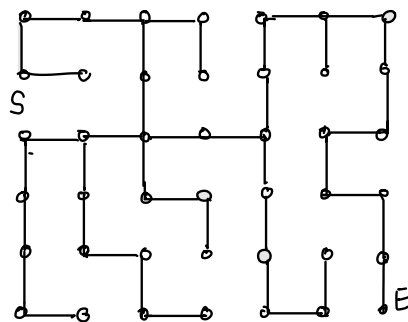
STEP 1:



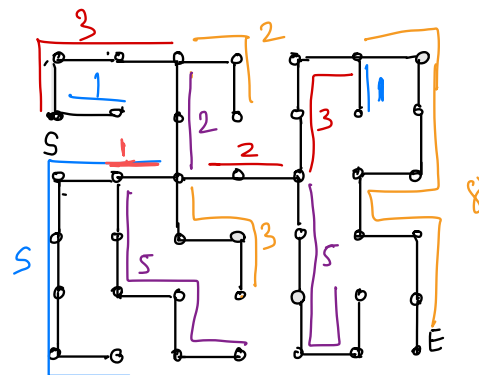
STEP 2:



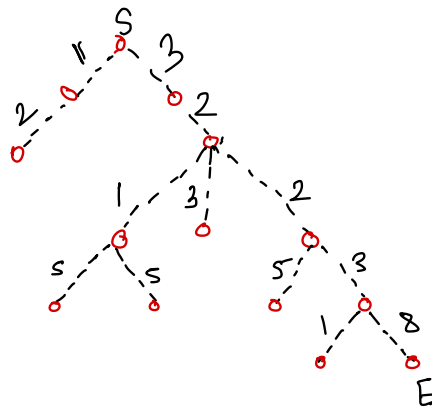
STEP 3:

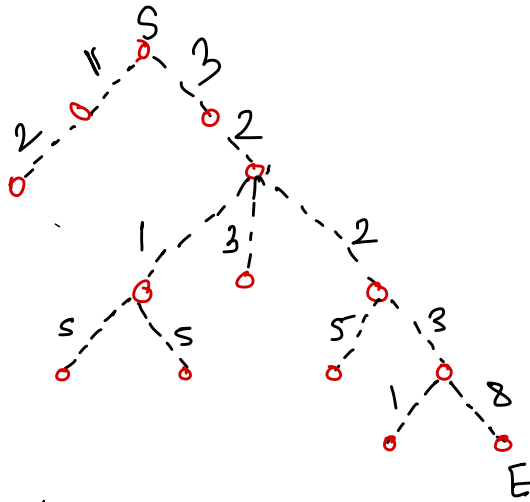


STEP 4:

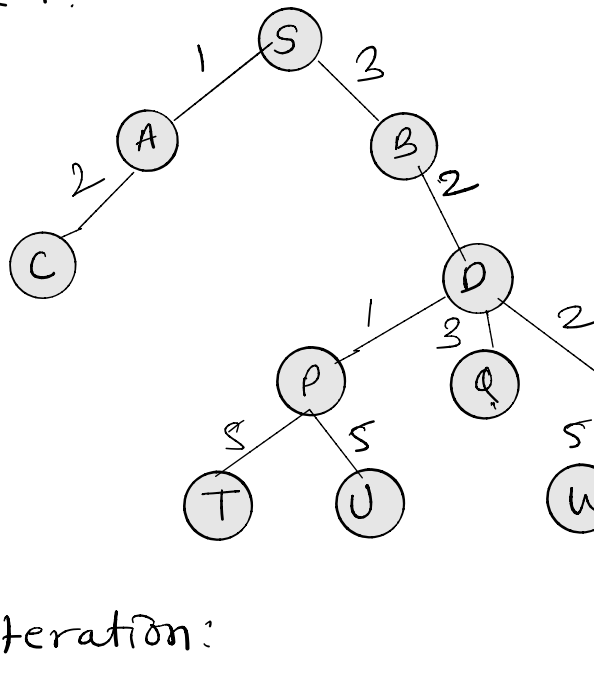


STEP 5:





Cycle 1:



14 Vertices =  
13 iterations

1st iteration:

0	1	2	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$
S	A	B	C	D	P	Q	R	T	U	W	X	Y	Z

- $0 + 1 = 1 < \infty$ , A's value is changed to 1
- $0 + 2 = 2 < \infty$ , B's value is changed to 2

• A

0	1	2	<del>3</del>	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$
S	A	B	C	D	P	Q	R	T	U	W	X	Y	Z

•  $1 + 2 = 3 < \infty$ , C's value is changed to 2

• B

0	1	2	3	<del>5</del>	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$
S	A	B	C	D	P	Q	R	T	U	W	X	Y	Z

•  $3 + 2 = 5 < \infty$ , D's value is changed to 5

• D

0	1	2	3	5	<del>6</del>	<del>8</del>	<del>7</del>	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$
S	A	B	C	D	P	Q	R	T	U	W	X	Y	Z

•  $5 + 1 = 6$ , P's value changed to 6

•  $5 + 3 = 8$ , Q's value changed to 8

•  $5 + 2 = 7$ , R's value changed to 7

• f

0	1	2	3	5	6	8	7	11	11					
S	A	B	C	D	P	Q	R	T	U		W	X	Y	Z

•  $6 + 5 = 11$ , T's value changed to 11

•  $6 + 5 = 11$ , U's value changed to 11

• R

0	1	2	3	5	6	8	7	11	11	12	10		
S	A	B	C	D	P	Q	R	T	U	W	X	Y	Z

$7 + 5 = 12$ , W's value changed to 12

$7 + 3 = 10$ , X's value changed to 10

• X

0	1	2	3	5	6	8	7	11	11	12	10	<del>11</del>	<del>18</del>
S	A	B	C	D	P	Q	R	T	U	W	X	Y	E

•  $10 + 1 = 11$ , Y's value change to 11

$10 + 8 = 18$ , E's value change to 18

So, shortest distance from S to E is "18"

$S \rightarrow B \rightarrow R \rightarrow X \rightarrow E$ ,