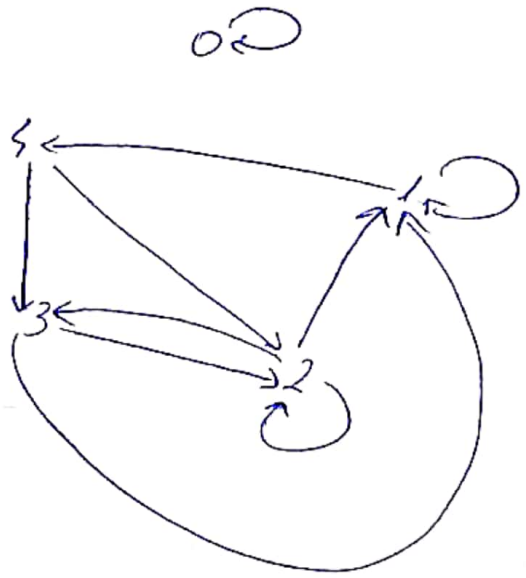


List of predecessors:

0: [0]
1: [1, 2, 3]
2: [2, 3, 4]
3: [2, 4]
4: [1]

Starting vertex $s = 1$

End vertex $e = 2$

Lowest length path: [1, 4, 2]

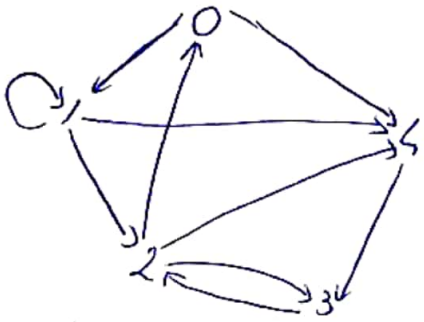
Step	x	queue	visited	dist	predecessors	path
0		[2]	[ ]	{2: 0}	{}	
1	2	[3, 4]	[2] [2, 3, 4]	{2: 0, 3: 1, 4: 1}	{3: 2, 4: 2}	
2	3	[4]	[2, 3, 4]	{2: 0, 3: 1, 4: 1}	{3: 2, 4: 2}	
3	4	[ ] [1]	[2, 3, 4, 1]	{1: 2, 2: 0, 3: 1, 4: 1}	{1: 4, 3: 2, 4: 2}	
4	1	[ ]				[1] [1, 4] [1, 4, 2]

The path is built from the predecessors dictionary, beggining with $s = 1$: predecessors[1] = 4

predecessors[4] = 2 = end

=> path: 1, 4, 2

The length is dist[s] = 2



list of predecessors:

0: [2]
1: [0, 1]
2: [1, 3]
3: [2, 4]
4: [0, 1, 2]

For the starting vertex = 0, end = 3, the lowest lenght path is = [0, 4, 3], lenght = 2.

Step	X	queue	visited	dist	predecessors	path
0		[3]	[ ]	{3: 0}	{ }	
1	3	[3, 2, 4]	[3] [3, 2, 4]	{2: 1, 3: 0, 4: 1}	{2: 3, 4: 3}	
2	2	[4, 2, 4, 1]	[3, 2, 4, 1]	{1: 2, 2: 1, 3: 0, 4: 1}	{1: 2, 2: 3, 4: 3}	
3	4	[4, 1] [4, 1, 0]	[3, 2, 4, 1, 0]	{0: 2, 1: 2, 2: 1, 3: 0, 4: 1}	{0: 4, 1: 2, 2: 3, 4: 3}	
4	1	[1, 0]	[3, 2, 4, 1, 0]	{0: 2, 1: 2, 2: 1, 3: 0, 4: 1}	{0: 4, 1: 2, 2: 3, 4: 3}	
5	0	[0] [ ]				[0] [0, 4] [0, 4, 3]

The path is built from the predecessors dictionary, beggining with 4 = 0.

Predecessor [0] = 4, Predecessor [4] = 3 = end

=> path: 0, 4, 3

The lenght is equal to dist [start] = 2