CS330HW6

ras70

October 2017

Problem 1A

The vertices are visiting in the following order $[\mathbf{1}, \mathbf{2}, \mathbf{5}, \mathbf{3}, \mathbf{4}, \mathbf{7}, \mathbf{6}, \mathbf{8}, \mathbf{9}]$ - with the leftmost element in the list visited first and the rightmost element visited last. For the work demonstrating this order please reference the next page.

Problem 1B

After Vertex 7 is visited the vertices have the following distance values*:

Vertex	Distance Value
2	1
3	3
4	3
5	2
6	5
7	4
8	5
9	$+\infty$

*Note: the distance between Vertex 1 and 1 is implicitly 0.

For the work demonstrating these distance values please reference the next page.

Work Appendix

Step 1 - Visit Vertex 1

Visited: [1]

Vertex	Distance Value
2	~~∞~~ 1
3	$+\infty$
4	~~∞~~ 3
5	$+\infty$
6	$+\infty$
7	$+\infty$
8	$+\infty$
9	$+\infty$

Step 2 - Visit Vertex 2

Visited: [1, 2]

Vertex	Distance Value
2	1
3	~~∞~~ 3
4	3
5	~~∞~~ 2
6	$+\infty$
7	$+\infty$
8	$+\infty$
9	$+\infty$

Step 3 - Visit Vertex 5

Visited: [1, 2, 5]

Vertex	Distance Value
2	1
3	3
4	3
5	2
6	~~∞~~ 6
7	$+\infty$
8	~~∞~~ 5
9	$+\infty$

Step 4 - Visit Vertex 3

Visited: [1, 2, 5, 3]

Vertex	Distance Value
2	1
3	3
4	3
5	2
6	~~6~~ 5
7	$+\infty$
8	5
9	$+\infty$

Step 5 - Visit Vertex 4

Visited: [1, 2, 5, 3, 4]

Vertex	Distance Value
2	1
3	3
4	3
5	2
6	5
7	~~∞~~ 4
8	5
9	$+\infty$

Step 6 - Visit Vertex 7

Visited: [1, 2, 5, 3, 4, 7]

Vertex	Distance Value
2	1
3	3
4	3
5	2
6	5
7	4
8	5
9	$+\infty$

Step 7 - Visit Vertex 6

Visited: [1, 2, 5, 3, 4, 7, 6]

Vertex	Distance Value
2	1
3	3
4	3
5	2
6	5
7	4
8	5
9	~~∞~~ 6

Step 8 - Visit Vertex 8

Visited: [1, 2, 5, 3, 4, 7, 6, 8]

Vertex	Distance Value
2	1
3	3
4	3
5	2
6	5
7	4
8	5
9	~~6~~ 5

Step 9 - Visit Vertex 9

Visited: [1, 2, 5, 3, 4, 7, 6, 8, 9]

Vertex	Distance Value
2	1
3	3
4	3
5	2
6	5
7	4
8	5
9	5