Multimap: (0,0) Starting State Node 0 1 2 3 4 5 7 8 9 10 11 6 -1 -1 Distance 0 -1 -1 -1 -1 -1 -1 -1 -1 -1 Backedge | NULL NULL NULL **NULL** NULL **NULL** NULL **NULL NULL** NULL **NULL NULL** Visit Node 0: Insert 2 and 11 Multimap: (1:2)(7:11) Node 0 1 2 3 4 5 6 7 8 9 10 11 Distance -1 -1 -1 -1 0 1 -1 -1 -1 -1 -1 7 NULL **NULL NULL** NULL **NULL** Backedge | NULL NULL (0,2)NULL **NULL** NULL (0,11)Visit Node 2: Insert 9 Multimap: (7:11)(13:9) Node 0 2 3 5 9 1 4 6 7 8 10 11 -1 1 -1 7 Distance -1 -1 -1 -1 -1 -1 13 NULL **NULL** Backedge | NULL **NULL** (0,2)NULL NULL **NULL** NULL (2,9)NULL (0,11)Multimap: (9:4)(13:9)(41:1) Visit Node 11: Insert 1 and 4 Node 2 7 0 1 3 4 5 6 8 9 10 11 47 -1 Distance 0 1 -1 9 -1 -1 -1 -1 13 7 NULL **NULL** Backedge NULL (11,1)(0,2)NULL (11,4) NULL NULL (2,9)NULL (0,11)Multimap: (10:8)(13:9)(18:6)(41:1) Visit Node 4: Insert 8 and 6 Node 2 0 1 3 4 5 6 7 8 9 10 11 Distance 0 47 1 -1 9 -1 18 -1 10 13 -1 7 Backedge | NULL (11,1)(0,2)**NULL** (11,4)**NULL** (4,6)**NULL** (4,8)(2,9)NULL (0,11)Visit Node 8: Insert 10 and 3: Update 9 and 6 Multimap: (11:10)(12:9)(13,6)(41:1)(43:3)

Node	0	1	2	3	4	5	6	7	8	9	10	11
Distance	0	47	1	43	9	-1	13	-1	10	12	11	7
Backedge	NULL	(11,1)	(0,2)	(8,3)	(11,4)	NULL	(8,6)	NULL	(4,8)	(8,9)	(8,10)	(0,11)

Visit Node 10: No updates

Multimap: (12:9)(13,6)(41:1)(43:3)

Node
Distance
Backedge

	0	1	2	3	4	5	6	7	8	9	10	11
•	0	47	1	43	9	-1	13	-1	10	12	11	7
е	NULL	(11,1)	(0,2)	(8,3)	(11,4)	NULL	(8,6)	NULL	(4,8)	(8,9)	(8,10)	(0,11)

Visit Node 9: Update 3.

Multimap: (13,6)(20:3)(41:1)

Node	0	1	2	3	4	5	6	7	8	9	10	11
Distance	0	47	1	20	9	-1	13	-1	10	12	11	7
Backedge	NULL	(11,1)	(0,2)	(9,3)	(11,4)	NULL	(8,6)	NULL	(4,8)	(8,9)	(8,10)	(0,11)

Visit Node 6: Insert 7 and 5.

Multimap: (14:5)(14:7)(20:3)(41:1)

Node	0	1	2	3	4	5	6	7	8	9	10	11
Distance	0	47	1	20	9	14	13	14	10	12	11	7
Backedge	NULL	(11,1)	(0,2)	(9,3)	(11,4)	(6,5)	(8,6)	(6,7)	(4,8)	(8,9)	(8,10)	(0,11)

Visit nodes 5, 7, 3 and 1 – No futher updates

Node	0	1	2	3	4	5	6	7	8	9	10	11
Distance	0	47	1	20	9	14	13	14	10	12	11	7
Backedge	NULL	(11,1)	(0,2)	(9,3)	(11,4)	(6,5)	(8,6)	(6,7)	(4,8)	(8,9)	(8,10)	(0,11)