Node	0	1	2	3	4	5	6	7	8	9	10	11
Distance	0	-1	-1	-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: Append 2 and 11 **Queue: 2, 11**

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

Visit Node 2: Append 9, Skip 0 **Queue: 11, 9**

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

Visit Node 11: Append 1 and 4, Skip 0 **Queue: 9, 1, 4**

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

Visit Node 9: Append 8 and 3, Skip 2 **Queue: 1, 4, 8, 3**

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

Visit Node 1: Skip 11 **Queue: 4, 8, 3**

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

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

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

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

Node	0	1	2	3	4	5	6	7	8	9	10	11
Distance	0	2	1	3	2	4	3	4	3	2	4	1
Backedge	NULL	(11,1)	(0,2)	(9,3)	(11,4)	(6,5)	(4,6)	(3,7)	(9,8)	(2,9)	(8,10)	(0,11)

Visit nodes 10, 7 and 5 – no changes.