2.

6 , 4

6 , 3

6 , 5

7 , 5

8 , 5

8 , 6

8 , 7

8 , 8

7 , 8

6 , 6

5 , 4

4 , 4

4.

6 , 4

5 , 4

6 , 5

6 , 3

4 , 4

6 , 6

7 , 5

3 , 4

4 , 5

8 , 5

2 , 4

4 , 6

The first algorithm is depth first; it searches one way till its end and then return to another path, until one path to the target position. This algorithm cannot guarantee the shortest path. The second one is breath first; it starts from one point and enlarges circle by circle until touches the target. Shortest path is guaranteed.