Problem 2(stack based algorithm):

Maze

"XXXXXXXXXX"  
 "X........X"  
 "XX.X.XXXXX"  
 "X..X.X...X"  
 "X..X...X.X"  
 "XXXX.XXX.X"  
 "X.X....XXX"  
 "X..XX.XX.X"  
 "X...X....X"   
 "XXXXXXXXXX"

First 12 Steps:

( 6, 4 )

( 6, 3 )

( 6, 5 )

( 7, 5 )

( 8, 5 )

( 8, 6 )

( 8, 7 )

( 8, 8 )

( 7, 8 )

( 6, 6 )

( 5, 4 )

( 4, 4 )

If labeled on maze(A-1, B-2,...), they are as follows:

"XXXXXXXXXX"

“X........X”

"XX.X.XXXXX"

"X..X.X...X"

"X..XL..X.X”

"XXXXKXXX.X"

“X.XBACJXXX"

"X..XXDXXIX"

"X...XEFGHX”

"XXXXXXXXXX"

Problem 4(queue based algorithm):

First 12 Steps:

( 6, 4 )

( 5, 4 )

( 6, 5 )

( 6, 3 )

( 4, 4 )

( 6, 6 )

( 7, 5 )

( 3, 4 )

( 4, 5 )

( 8, 5 )

( 2, 4 )

( 4, 6 )

As shown below:

"XXXXXXXXXX"

"X........X"

"XX.XKXXXXX"

"X..XHX...X"

"X..XEILX.X”

"XXXXBXXX.X"

“X.XDACFXXX"

"X..XXGXX.X"

"X...XJ...X”

"XXXXXXXXXX"

So basically we can think these two methods are corresponding to the Depth-First-Search and Breadth-First-Search. In stack-based algorithm, the code will select the farthest possible point(largest number of steps from starting point) as the next step by the order of west-south-east-north. The queue-based algorithm, in each step, will select the nearest(smallest number of steps from starting point) “undiscovered” point as the next by the order of north-east-south-west.