

Lab 6 Tasks

Q1. Given an array of distinct integers, print the longest subarray which contains numbers arranged in a continuous sequence.

Input: 10 1 56 58 57 90 92 94 93 91 45	Output: 90 91 92 93 94
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Q2. Create a linked list with n elements where the elements contain an integer variable. Now rotate the linked list to the right by k places where k is an integer taken as input from the user.

For example:

Given 1->2->3->4->5->NULL and $k = 2$,
return 4->5->1->2->3->NULL.

Q3. Given two integer arrays arr1 and arr2 print the median of all the numbers in the two arrays. **You cannot declare any other array.**

Input: 5 5 9 10 8 2 7 3 12 7 3 10 8 9	Output: 8
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Q4. Given a $n \times n$ maze, the starting position in the maze and the finishing position in the maze you will have to print whether it is possible to travel from the starting position to the finishing position. The values at each position in the maze will be either 0 or 1. You can move to positions with value 1, but not to the positions with value 0.

Input: 6 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 1 1 0 0 0 1 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 Start: 4 4 Finish: 1 4 Output: Possible	Input: 10 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 1 0 0 1 1 1 1 1 1 1 1 0 0 1 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 1 0 0 1 1 1 1 1 1 1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Start: 1 1 Finish: 8 1 Output: Possible
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Input: 10 0000000000 0111111110 0000000010 0111111110 0100000000 0111111110 0000000000 0111111110 0100000000 0000000000 Start: 1 1 Finish: 8 1 Output: Impossible	Input: 10 0000000000 0111111110 0111111110 0111111110 0001111000 0001111000 0001111000 0111111110 0111111110 0000000000 Start: 1 1 Finish: 8 8 Output: Possible
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