Assignment 3: Python Programming Exercises (Batch: T3 and T4)

Write program is python for the following and submit the answers on moodle. (Single zip file including .py or .ipynb files)

1. You are given a number N and following by an array of N numbers and followed by two elements U and V. Find the minimum distance between the elements U and V in the array. The array may have duplicates.

   For example, if the array is (1, 5, 3, 7, 2, 8, 3, 4, 5, 9, 9, 3, 1, 3, 2, 9)

   Minimum distance (U=4, V=7): 4

   Input Format:

   First Line contains integer representing number of elements N.

   Second line contains N elements separated by spaces.

   Third line contains two numbers separated by spaces representing U and V.

   Output Format:

   Output displays integer representing minimum distance.

   Sample Testcases:

Input 1 16 1 5 3 7 2 8 3 4 5 9 9 3 1 3 2 9 4 7	Output 1 4
Input 2 16 1 5 3 7 2 8 3 4 5 9 9 3 1 3 2 9 2 5	Output 2 3

2. Suppose you have given the stock prices for respective days like (100, 695, 260, 310, 40, 535, 695). The stock price for the 1st day is 100, 2nd day it is 180 and so on. Find the maximum profit that can be earned and the days buying the stock and selling the stock. Note that buying day is earlier than the selling day. For the given example the maximum profit is 655 and the days are buying day: Day 5 and selling day: Day 7.

Assignment 3: Python Programming Exercises (Batch: T1 and T2)

Write program is python for the following and submit the answers on moodle. (Single zip file including .py or .ipynb files)

1. You are given a number N and following by an array of N numbers and followed by two elements U and V. Find the minimum distance between the elements U and V in the array. The array may have duplicates.

   For example, if the array is (1, 5, 3, 7, 2, 8, 3, 4, 5, 9, 9, 3, 1, 3, 2, 9)

   Minimum distance (U=4, V=7): 4

   Input Format:

   First Line contains integer representing number of elements N.

   Second line contains N elements separated by spaces.

   Third line contains two numbers separated by spaces representing U and V.

   Output Format:

   Output displays integer representing minimum distance.

   Sample Testcases:

Input 1 16 1 5 3 7 2 8 3 4 5 9 9 3 1 3 2 9 4 7	Output 1 4
Input 2 16 1 5 3 7 2 8 3 4 5 9 9 3 1 3 2 9 2 5	Output 2 3

2. You are given a number ‘N’. Your task is to find all the numbers ranging from 1 to N with the fact that absolute difference between consecutive digits of a number is 1.

   Input format:

   Input contains integer N

   Output format:

   Output displays all the numbers that satisfy the given condition and ‘-1’ if no number is present.

   Sample Testcases:

Input 1 30	Output 1 10 12 21 23
Input 2 9	Output 2 -1