

DEPARTMENT OF COMPUTER SYSTEM ENGINEERING

UNIVERSITY OF ENGINEERING & TECHNOLOGY PESHAWAR

4th Semester SPRING 2023

Assignment # 1

Max Marks: 10 Marks

Due Date: 21 March 2023

Plagiarism Policy:

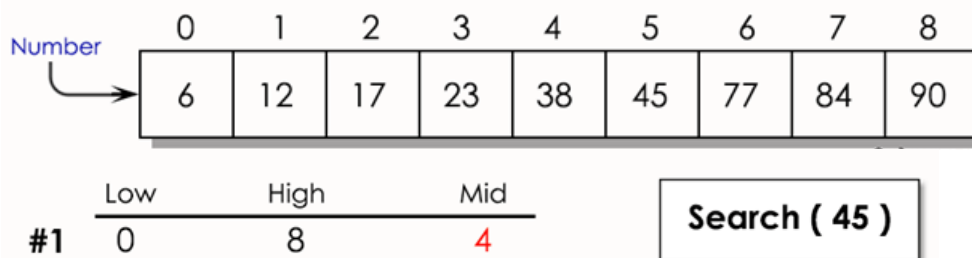
Plagiarism is strictly not allowed. Any case of plagiarism will get zero marks.

Q1

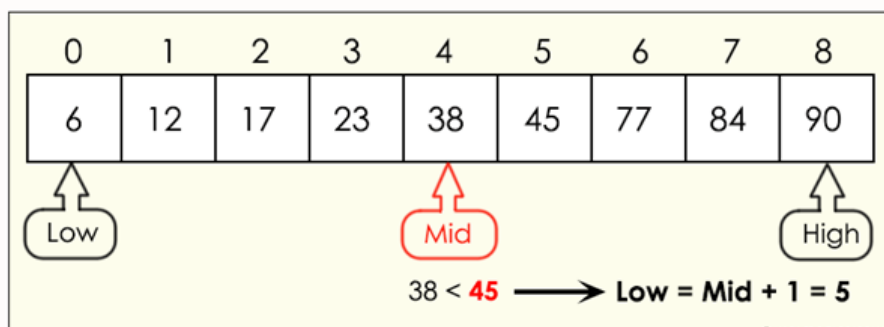
Write a C++ program to find the position of a target value within a sorted array using binary search.

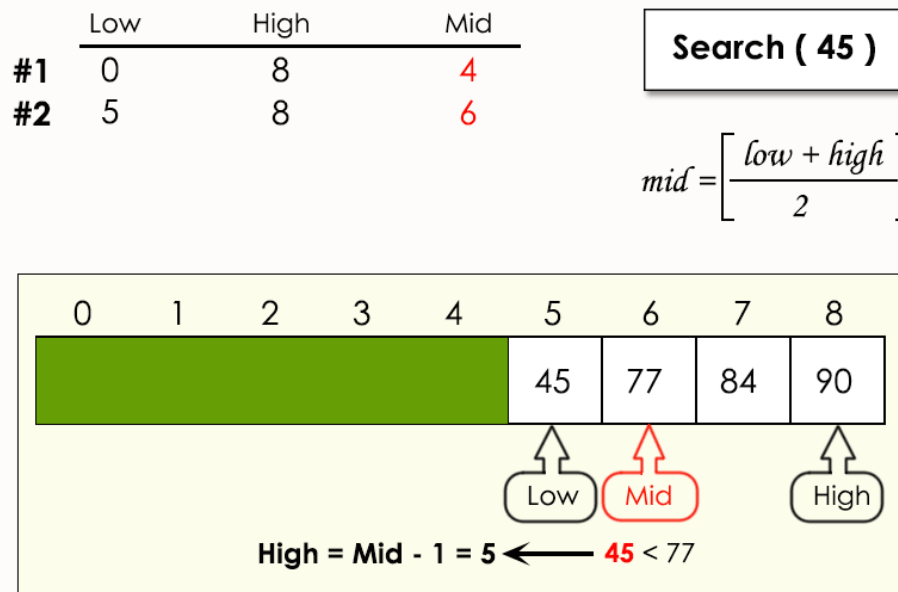
Note: Binary Search: In computer science, a binary search or half-interval search algorithm finds the position of a target value within a sorted array. The binary search algorithm can be classified as a divide-and-conquer search algorithm and executes in logarithmic time.

Pictorial presentation - Binary search algorithm:



$$mid = \left\lfloor \frac{low + high}{2} \right\rfloor$$

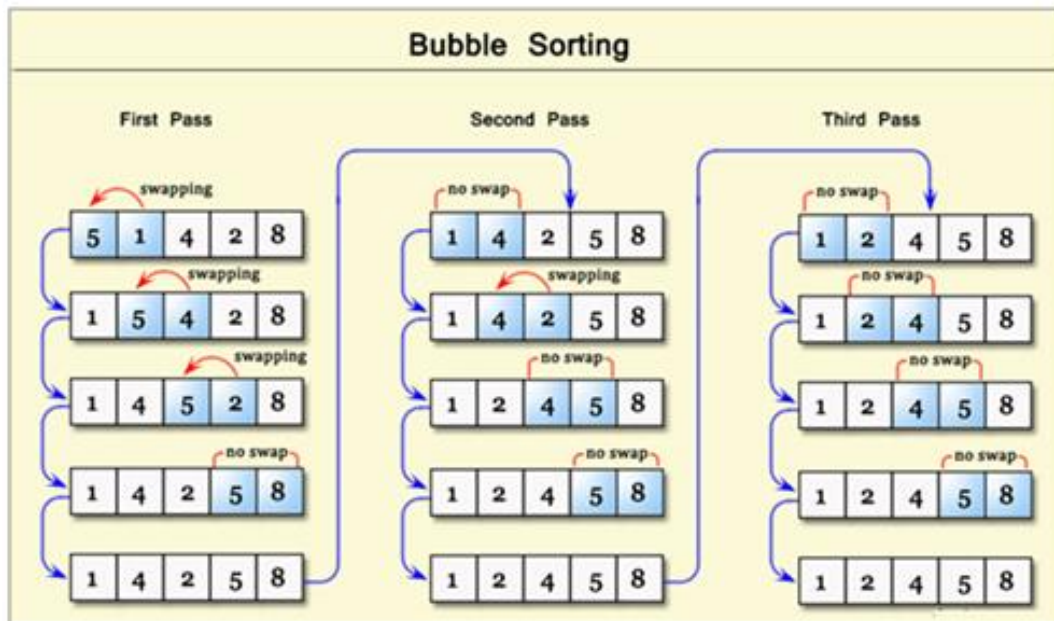




Q2

Write a C++ program to sort a list of elements using the bubble sort algorithm.
 Note: Bubble Sort works by swapping adjacent elements if they are in the wrong order.

Pictorial presentation - Bubble sort algorithm:



Note: All your answers to the questions/ C++ code posed in the assignment should be organized as a handwritten document that you would submit.