AAD1 (CSE2631) LAB EXPERIMENT

EXPERIMENT-03

1. Selection sort

2. Array reduction
   Problem: Element left after reductions. Given an array of positive elements. You need to perform reduction operation. In each reduction operation smallest positive element value is picked and all the elements are subtracted by that value. You need to print the number of elements left after each reduction process.
   Example:
   Input: [5, 1, 1, 1, 2, 3, 5]
   Output: In first iteration pick smallest positive element 1.
   4 corresponds to [4, 1, 2, 4] after subtraction
   3 corresponds to [3, 1, 3] after subtraction
   2 corresponds to [2, 2] after subtraction
   0 corresponds to [0] after subtraction

3. Merging two sorted arrays
   Given two sorted arrays. Sort the elements of these arrays so that first half of sorted elements will lie in first array and second half lies in second array.
   Input: A=[5, 7, 11, 19, 23] B=[6, 13, 20]
   Output: C=[5, 6, 7, 11, 13, 19, 20, 23]

4. Check reverse
   Problem: Given an array of integers, find if reversing a sub-array makes the array sorted.
   Example
   Input: A= [1, 2, **6, 5, 4,** 7]
   Output: True
   Explanation: If we reverse sub array [6, 5, 4] the whole array become sorted.

5. Finding first repeated elements in an array

6. Print duplicates in a list

7. Find the missing number in an array
   Problem: In a given list of n-1 elements, which are in the range of 1 to n. There are no duplicates in the array. One of the integers is missing. Find the missing element.

8. Given an array of integers, find the element pair with minimum/maximum difference

9. Given a list n numbers, find the element which appears maximum number of times.

10. Given an array of size N. The elements in the array may be repeated. You need to find the sum of distinct elements of the array. If there is some value repeated then they should be added once.
    Example: A=[1, 2, 3, 1, 1, 4, 5, 6, 5]
    Sum= 21