1. Write a program which calculates the frequency of each of the given numbers. Follow the sample input and output to get your concept cleared.

   Input:
   1 2 3 4 4 3 2 1 1 1 3 5 2 3 3 2 4
   Output:
   1 -> 4
   2 -> 4
   3 -> 5
   4 -> 3

2. Write a program which prints all unique elements just once from some given numbers. You must print them in increasing order. Follow the sample input and output to get your concept cleared.

   Input:
   1 2 3 4 4 3 2 1 1 1 3 5 2 3 3 2 4
   Output:
   1 2 3 4 5

3. Write a program to merge two arrays sorted in descending order and print it. Follow the sample input and output to get your concept cleared.

   Input:
   5
   1 2 3 4 5
   4
   2 3 6 9
   Output:
   9 6 5 4 3 3 2 2 1

4. Write a program to separate odd and even integers in separated arrays. Print the two arrays in two different line and in the next line print two space separated integers x and y; where x is the difference of the maximum of the two arrays and y is the difference of minimum of the two arrays. Follow the sample input and output to get your concept cleared.

   Input:
   1 2 3 4 5 6 7 8 9
   Output:

1 3 5 7 9
2 4 6 8
1 1

5. Write a program to insert new value in the array at desired position. And print the array. Follow the sample input and output to get your concept cleared.

   Input:
   5
   10 20 30 40 50
   77 3
   Output:
   10 20 77 30 40 50

6. Write a program to delete an element at desired position from an array. Follow the sample input and output to get your concept cleared.

   Input:
   6
   10 20 77 30 40 50
   3
   Output:
   10 20 30 40 50

7. Write a program
   (i) To find the nth largest element of an array = x.
   (ii) To find the mth smallest element of an array = y.

   And print three space separated integers x, y and z; where z = |x-y|.

   Input:
   8
   1 6 2 4 8 3 5 7
   2 3
   Output:
   7 3 4

8. Largest sum of contiguous sub-array
9. Largest possible sequence of non-decreasing elements
10. Find an element of an array using binary search.
11. Write a program to merge one sorted array into another sorted array.
12. Write a program to find two elements whose sum is closest to zero.

13. Write a program to find a sub-array with given sum from a given array.
14. Write a program to find the mode of a dataset.
15. **Write a program to count the number of triangles that can be formed from a given array.**
16. **Write a program to check whether an array is a subset of another array.**
17. Write a program to find the minimum number of jumps required to reach the end of the array.
18. Write a program to move all the zeroes to the end of an array.
19. Write a program to find the maximum product sub-array in a given array.
20. **Write a program to replace every element with the greatest element on its right side.**
21. Write a program to find the maximum sum such that no two elements are adjacent.
22. Write a program to find out the maximum difference between any two elements such that larger elements appear after the smaller number.
23. Write a program to find all distinct pairs of a specific difference.
24. Write a program to print all possible combinations of r elements in a given array.
25. Write a program to find the maximum size square sub-matrix with all 1s.
26. Given an unsorted array of specific size. Write a program to find the minimum length of sub-array such that sorting this subarry makes the whole array sorted.
27. Write a program to find the maximum for each and every contiguous subarray of size k from a given array.
28. Write a program to check if an array can be splitted in such a position that the sum of the left side of the splitting is equal to the sum of the right side.
29. Write a program to find the minimum number of swaps to gather all elements less than or equal to k.

1, 2, 3, 4, 5, 6, 7

7, 7, 7, 7, 7, 7, 7

7, 1, 2, 3, 4, 6, 4

7

#Selection sort