Kotlin Assignment set 2.(B.Tech)

1. WAP to take two different arrays as input.
   a. Assign numbers to both the arrays
   b. Sort each of the arrays in ascending order using insertion sort
   c. Merge the two sorted arrays in a third one where the numbers are sorted in descending order.

2. WAP to take a set of numbers (0-100) in an array and print the frequency of numbers within given class. For example
   Form a class 1-10,11-20,21-30 up to 91-100
   And find how many numbers lie within each interval.

3. WAP to define two 2D arrays of integers as two Matrices.
   Perform the following operations
   a. Check if the matrices are symmetric and skew symmetric
   b. Addition of the two matrices and result to be stored in a third one (Check compatibility)
   c. Product of two matrices and result to be stored in a third one (check compatibility)
   d. Transpose of any one matrix and the result to be stored in a separate one.
   e. Obtain a third matrix whose lower part is lower triangular of first matrix and upper part is the upper triangular of the second matrix (pad the additional parts with zero values and assign the diagonal to be zero)[preferably for this part the matrix must be square one]

4. WAP to define two 1 D arrays as two sets of numbers (setA and setB)[keep a check for the elements to be unique for each set]
   Perform the following operations on the two sets
   a. Form a new set to get the union of the two given sets
   b. Form a new set to get the intersection of the two sets(if no common element – define the result as disjoint)
   c. Form a new set to get (setA -setB)
   d. For setA show the combination in the power set.

5. WAP to store a set of numbers in an array and perform the following operations
   a. Find all the consecutive monotonically increasing sequence of numbers in the array
   b. Find the first and second maximum number within the array(without sorting)
   c. Rearrange the array such that all the odd and even numbers exists alternatively as long it permits.