1. Write a program to insert a string into another string (Without using any predefined method) at any given index.

ILoveMyIndia

index: 1

String to be inserted: Also

Output: IAlsoLoveMyIndia

2. Write a program to check two strings are Anagram of each other.

Note: An anagram of a string is another string that contains the same characters, only the order of characters can be different.

Example, “abcd” and “dabc” are an anagram of each other.

3. Java program for Sorting a String

(i)Without using any inbuilt sorting functions

(ii) By using inbuilt functions

4. Program to Extract Substring from a String with Equal 0, 1, and 2.

Input: str = “102100211”

Output: 5

Explanation: "102" , "021" , "210" , " 021" , "210021" these are combinations can be formed where the occurrence of 0 , 1 and 2 all are equal.

5. Write a program to validate an IPv4 Address.

IPv4 addresses are canonically represented in dot-decimal notation, which consists of four decimal numbers, each ranging from 0 to 255, separated by dots, e.g., 172.16.254.1

Test Cases:

Inputs:

String ip1 = "128.0.0.1";

String ip2 = "125.16.100.1";

String ip3 = "125.512.100.1";

String ip4 = "125.512.100.abc";

Output:

Valid

Valid

Not Valid

Not Valid

6. Print all permutations of a string in Java and permutations need to be distinct.

Example:

Input: abc

Output: abc acb bac bca cab cba

7. Find out if there are any occurrences of the word "city" in a sentence:

Example: Input: I love my city. My city is clean. It is a popular city.

Output: Occurance of city is 3.

Note: Use Pattern and Matcher classes

8. Check if Email Address is Valid or not in Java.

Note: Use Pattern and Matcher classes

9. We are given two arrays that represent the arrival and departure times of trains, the task is to find the minimum number of platforms required so that no train waits.

Examples:

Input: arr[] = {9:00, 9:40, 9:50, 11:00, 15:00, 18:00}, dep[] = {9:10, 12:00, 11:20,

11:30,19:00, 20:00}

Output: 3

Explanation: There are at-most three trains at a time (time between 9:40 to 12:00)

Input: arr[] = {9:00, 9:40}, dep[] = {9:10, 12:00}

Output: 1

Explanation: Only one platform is needed.

10. Given an unsorted array of integers, sort the array into a wave array. An array arr[0..n-1] is sorted in wave form if:

arr[0] >= arr[1] <= arr[2] >= arr[3] <= arr[4] >= …..

Examples:

Input: arr[] = {10, 5, 6, 3, 2, 20, 100, 80}

Output: arr[] = {10, 5, 6, 2, 20, 3, 100, 80}

Note: many answers are also possible.