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Assignment-12

1 write a java Program to compare two strings lexicographically. Two strings are lexicographically equals if they are the same length and contain the same characters in the same positions.

sample Input:
String 1 : This is Exercise 1
String 2 : This is Exercise 2

sample output:
"This is Exercise 1" is less than "This is Exercise2"

(2) write a java Program to check whether two string objects contain the same data or not without using any comparison method.

(3) write a java Program to get the index of all the characters of the alphabet in a given string. Ex: Hello

(4) write a java Program to find the given string is palindrome or not using String class.

5 write a java Program to find the second most frequent character in a given string.

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Answer

1
```
import java.lang.*;
import java.util.*;

Public class Lexicographical{
    public static void main (String args[]){
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter first string :-");
        String str1 = sc.nextLine();
        System.out.print["Enter second string :-");
        String str2 = sc.nextLine();

        int min=Math.min(str1.length(), str2.length());
        for(int i=0; i<min; i++){
            if (str1.charAt(i) > str2.charAt(i)){
                System.out.println ("'" + str1 +
                    "' is greater than '" + str2
                    + "'.");
                sc.close();
                return;
            }else if (str1.charAt(i) < str2.charAt(i)){
                System.out.println ("'" + str1 +
                    "' is less than '" + str2 + "'.");
                sc.close();
                return;
            }
        }
        if (str1.length() > str2.length()){
            System.out.println ("'" + str1 + "' is greater than'"
                + str2 + "'.");
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```
        } else if (str1.length() < str2.length()) {
            System.out.println("'" + str1 + "' is less than '"
                    + str2 + "'.");
        } else {
            System.out.println("Both strings are equal.");
        }
        sc.close();
    }
}
```

Output:-

```
Enter first string :- This is Exercise 1
Enter second string :- This is Exercise 2
'This is Exercise 1' is less than 'This is Exercise 2'.
```

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2
```
import java.io.*;
public class StringEqualCheck {
    public static void main(String args[]) throws IOException {
        BufferedReader br = new BufferedReader
                (new InputStreamReader(System.in));
        char str[] = new char[100];
        int count = 0, ch;

        System.out.Print("Enter first string:");
        while((ch=br.read()) != -1) {
            if(ch=='\n') break;
            str[count++] = (char)ch;
        }

        System.out.Print("Enter second string:-");
        int i = 0;
        boolean equal = true;
        while((ch=br.read()) != -1) {
            if(ch=='\n') break;
            if(i >= count || str[i] != (char)ch) {
                equal = false;
            }
            i++;
        }
        if(equal) {
            System.out.println("The strings are equal.");
        } else {
            System.out.println("The strings are not
                                equal.");
        }
    }
}
```

Output:-

Enter first string :- Hello

Enter second string :- Hello

The strings are equal.

3
```
import java.lang.*;
import java.util.*;
class IndexOfChar {
    public static void main (String args[]){
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter a string :- ");
        String str = sc.nextLine();
        int cha[] = new int [str.length()];
        int freq[] =new int [str.length()];
        int idx=0;
```

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```
for(int i=0; i<str.length(); i++){
    char c = str.charAt(i);
    boolean found = false;
    for(int j=0; j<idx; j++){
        if(cha[j] == c){
            freq[j]++;
            found = true;
            break;
        }
    }
    if(!found){
        int k = idx-1;
        while(k>=0 && cha[k]>c){
            cha[k+1] = cha[k];
            freq[k+1] = freq[k];
            k--;
        }
        cha[k+1] = c;
        freq[k+1] = 1;
        idx;
    }
}
System.out.println("Character freqencies :-");
for(int i=0; i<idx; i++){
    System.out.println((char)cha[i]+ ": "+
                        freq[i]);
}
sc.close();
}
}
```

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output:-
Enter a string :- Hello
Character frequencies:-
H : 1
e : 1
l : 2
o : 1

4
```
import java.lang.*;
import java.util.*;
public class Palindrome {
    public static void main (String args[]) {
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter a string :- ");
        String str = sc.nextLine ();

        String rev = "";
        for (int i = str.length()-1 ; i>=0 ; i--) {
            rev += str.charAt(i);
        }
        if (str.equals(rev)) {
            System.out.println (str + " is a Palindrome.");
        } else {
            System.out.println (str + " is not a Palindrome.");
        }
        sc.close();
    }
}
```

output:-
Enter a string :- POP
POP is a palindrome.

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```
import java.lang.*;
import java.util.*;
public class SecFreqChar {
    public static void main (String args[]) {
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter a string :-");
        String str = sc.nextLine();
        char char[] = new char [str.length()];
        int freq[] = new int [str.length()];
        int idx = 0;
        for (int i=0; i<str.length(); i++) {
            char c = str.charAt(i);
            boolean found = false;
            for (int j=0; j<idx; j++) {
                if (char[j] == c) {
                    freq[j]++;
                    found = true;
                    break;
                }
            }
            if (!found) {
                char[idx] = c;
                freq[idx] = 1;
                idx++;
            }
        }
        int first=0, second=0;
        for (int i=0; i<idx; i++) {
            if (freq[i] > first) {
                second = first;
                first = freq[i];
            } else if (freq[i] > second && freq[i] != first) {
                second = freq[i];
            }
        }
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```
if (second == 0) {
    System.out.println("No second most freqvent
                        character.");
    sc.close();
    return;
}
System.out.print("Second most freqvent character:-");
for(int i=0; i<idx; i++) {
    if (freq[i] == second) {
        System.out.print(char[i]+", ");
    }
}
sc.close();
}
}
```

output:-

Enter a string:- Hello
second most freqvent character:- H, e, o,