1. Java Program to Count the Number of Occurrences of Substring in a String.

```
package str;

public class Occurance {
        public static void main(String []args) {
          String str1 = "java is langulage, java is top level ", str2 = "ja";
     System.out.println("Count of occurrences of a substring
recursively are: "
          +subsrting_rec(str1, str2));
  }
  static int subsrting_rec(String str, String sub){
    if (str.contains(sub)){
      return 1 + subsrting_rec(str.replaceFirst(sub, ""), sub);
    }
    return 0;
  }
}
```

Output:
Count of occurrences of a substring recursively are: 2

2. Java Program to Count the Occurrences of Each Character in String

```
package str;

public class All {
                static final int max = 256;

                static void get(String str)
                {
```

```
                int count[] = new int[max];

                int len = str.length();

                for (int i = 0; i < len; i++)
                        count[str.charAt(i)]++;

                char ch[] = new char[str.length()];
                for (int i = 0; i < len; i++) {
                        ch[i] = str.charAt(i);
                        int find = 0;
                        for (int j = 0; j <= i; j++) {

                                if (str.charAt(i) == ch[j])
                                        find++;
                        }

                        if (find == 1)
System.out.println("Number of Occurrence of "+ str.charAt(i)+ " is:"
+ count[str.charAt(i)]);
                }
        }

        public static void main(String[] args)
        {
                String str = "abcdeefdabcdeabcde";
                get(str);
        }
    }
```

Output:

Number of Occurrence of a is:3

Number of Occurrence of b is:3

Number of Occurrence of c is:3
Number of Occurrence of d is:4
Number of Occurrence of e is:4
Number of Occurrence of f is:1

3. Java Program to Swap Two Strings without Third String Variable.

```
package str;

public class Swap {

	public static void main(String[] args) {

			String a = "hello ", b = "ilakkiya ";
			 System.out.println("Strings before swapping: " + a +
" " + b);

			a = a + b;

			b = a.substring(0, (a.length() - b.length()));

			a = a.substring(b.length());

			System.out.println("Strings after swapping: " + a + " "
+ b);
		}
	}
```

Output:
Strings before swapping: hello ilakkiya
Strings after swapping: ilakkiya hello

4. All methods

```
package str;

public class Allmethods {

	public static void main(String[] args) {
		String s1="Laptop";
		String s2= new String("Phone");
		String s3="";
		String s4= new String("laptop");
		String s5="heap";
		String s6="Heap";
		String s7="heap";

		System.out.println("length:"+s1.length());
		System.out.println("Empty:"+s3.isEmpty());
		System.out.println("Blank:"+s3.isBlank());
		System.out.println("Equals:"+s1.equals(s4));
		System.out.println("Equals
Ignore:"+s1.equalsIgnoreCase(s4));
		System.out.println("Compare to:"+s5.compareTo(s6));

	System.out.println("CompreIgnore:"+s5.compareToIgnoreCase(
s6));
		System.out.println("Start with:"+s5.startsWith(s6));
		System.out.println("Ends With:"+s5.endsWith(s6));
		System.out.println("Start:"+s5.startsWith(s7,0));
		System.out.println("Indexof:"+s1.indexOf('a'));
		System.out.println("Indexof:"+s6.indexOf("heap"));
		System.out.println(s1.indexOf('a',2));
	System.out.println(s1.indexOf("apt",1));
	System.out.println("Last IndexOf:"+s1.lastIndexOf('p'));
	System.out.println("CharAt:"+s1.charAt(2));
```

```
        System.out.println("Substring:"+s1.substring(2));



    }

}
```

Output:
length:6
Empty:true
Blank:true
Equals:false
Equals Ignore:true
Compare to:32
CompreIgnore:0
Start with:false
Ends With:false
Start:true
Indexof:1
Indexof:-1
-1
1
Last IndexOf:5
CharAt:p
Substring:ptop

1. How many total objects will be created in the following code?

```
String s1 = "Hello";
String s2 = "Hello";
String s3 = "Hello";
```

1 object created. Because “Hello” occupy space in String constant pool. Then s2 and s3 literals also mention s1 reference value. So one objects created.

2. How many total objects will create in the following code?

String s = new String("Hello");
Ans: 2 object created.
It creates two objects (in String pool and in heap) and one reference variable where the variable 's' will refer to the object in the heap.

3. How many total objects will be created in the following code?

String s1 = new String("Scientech");
String s2 = new String("Scientech");
String s3 = "Scientech";
String s4 = "Scientech";
A total of three objects will be created, two in the heap area and one in string constant pool.

4. How to compare two Strings in Java?

Using String. equals() :In Java, string equals() method compares the two given strings based on the data/content of the string. If all the contents of both the strings are same then it returns true.

5. What is the difference between = = (double equal operator) and equals method in Java?

== check the memory location are same or not. Equals check the content is same or not.

6. What will be the output of the following code?

```
public class Test {
public static void main(String args[])
{
String s1 = "Hello";
String s2 = "Hello";
String s3 = new String("Good bye");
String s4 = new String("Hello");
System.out.println(s1.equals(s2));
System.out.println(s1.equals(s3));
System.out.println(s1.equals(s4));
System.out.println(s1.equals(args));
System.out.println(s1.equals(null));
}}
```

Output:
True
False
True
False
False

7. What will be the output of the below code?

```
public class Test {
public static void main(String args[])
{
String s1 = "GOOD BYE";
String s2 = new String("Good bye");
System.out.println(s1.equals(s2));
System.out.println(s1.equalsIgnoreCase(s2));
}
}
```

Output:
False➔ equals is a case sensitive.. so it is false
True➔because ignore not case sensitive.

8. Consider the following program code

```
public class SubStringTest {
public static void main(String[] args)
{
String s = new String("Java Technology");
s.substring(5);
System.out.println(s);
String s2 = s.substring(6, 15);
System.out.parental(s2);
}
}
```

What will be the output of this program?
Java Technology
echnology

9. How many string objects will create in the heap and string constant pool?

Heap: Two String objects are created in the heap (s and s2).
String Pool: One string literal ("Java Technology") is added to the String constant pool.
9.How to check a string is empty or not?

```
package str;

public class Sort {

	public static void main(String[] args) {
		String s1 = "";
		System.out.println(s1.isEmpty());
```

```
        }

}
```

With space or letter ➔ isEmpty() method provide false.
Without space ➔ condition is true.

10. Consider the following code and think about the output.

```
public class StringCompareTest {
public static void main(String[] args)
{
String st1 = "Ivaan";

String st2 = "Hilery";
String st3 = "Ivaan";
String st4 = new String("Ivaan");
System.out.println(st1.compareTo(st2));
System.out.println(st1.compareTo(st3));
System.out.println(st3.compareTo(st1));
System.out.println(st2.compareTo(st4));
}
}
```

Output:

```
1
0
0
-1
```