Program 1:

```
import java.util.*;
public class StringAssignment {
   public static void main(String[] args) {
      int countv=0,countc=0,digit=0, rest=0;
      String str="Hello world 37 1!";
      str=str.toLowerCase();
      char ch[]=str.toCharArray();// converting string array to separate characters
      for(int i=0;i<str.length();i++) {
         if (ch[i]== 'a' || ch[i]== 'e'||ch[i]== 'i' || ch[i]== 'o'||ch[i]== 'u') {
            countv = countv + 1;
         }
        else if(ch[i]>='a'&& ch[i]<='z'){
            countc=countc + 1;
         }
        else if(ch[i]>=48 && ch[i]<=57){
           digit++;
         }
        else{
           rest++;
         }
      }
      System.out.println("Vowels are: "+countv);
      System.out.println("Consonants are: "+countc);
      System.out.println("Numbers are: "+digit);
      System.out.println("Others are: "+rest);
   }
}
```

In above program instead of using toCharArray(), i.e. ch[i], I can also use str.charAt(i)

Program 2:

```
import java.util.*;
public class StringAssignment {
   public  String convert1(int n1, int n2){
      String str1="", str2="";
         if(n1==3) {
            str1 = str1 + "three";
         }
         if(n2==9){
```

```
            str2=str2 + "nine";
        }
      System.out.println("There are "+str1+" bugs and "+str2+" features");
        str1="";
        str2="";
        n1++;
        n2++;
        if(n1==4){
            str1= str1+ "four";
        }
      if(n2==10){
        str2= str2+ "ten";
      }
      System.out.println("There are "+str1+" bugs and "+str2+" features");
      return str2;
   }
   public static void main(String[] args) {
   StringAssignment sa= new StringAssignment();
    String str=sa.convert1(3,9);
   }
}
```

Program 3:

```
import java.util.*;
public class StringAssignment {
   String str;
   public void func(){
      Scanner sc=new Scanner(System.in);
      System.out.println("Enter String: ");
      str=sc.next();
      str=str.toLowerCase();
      for(int i=1;i<str.length();i++){
        if(str.charAt(i)!=str.charAt(i-1)){
            System.out.print(str.charAt(i-1));
        }
      }
   }
   public static void main(String[] args) {
      StringAssignment s=new StringAssignment();
```

```
        s.func();
        }
    }
```

Program 4:

```
import java.util.*;
public class StringAssignment {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter string: ");
        String str=sc.nextLine();
        char ch[]=str.toCharArray();
        for(char c: ch){
            if(str.indexOf(c)==str.lastIndexOf(c)){
                System.out.println("First non-repeating character: "+c);
                break;
            }
            else{
                System.out.println("not found");
                break;
            }
        }
        }
    }
```

Program 5:

```
import java.util.*;
public class StringAssignment {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        String str[]=new String[]{"I","am","a","Java","Programmer"};
        for(int i=0;i<str.length;i++){
            System.out.println(str[i].length());
        }
        }
}
```

Program 6:

```
import java.util.*;
public class StringAssignment {
   public static void main(String[] args) {
      Scanner sc=new Scanner(System.in);
      int count =0;
      boolean b1=true;
      boolean b2=false;
      String str[]=new String[]{"abc","abc","abc"};
      String str1="";
      for(int i=0;i<str.length;i++){
         {
            if(str[i]=="abc") {
               str1 = str1 + str[i];
               count=count+1;
               System.out.println(b1+" (abc is repeated "+count+" times)");
            }
            else{
               System.out.println(b2);
            }
         }
      }
      }
}
```

Program 7:

```
import java.util.*;
public class StringAssignment {
   public static String func(String str){
      StringBuilder sb=new StringBuilder();//StringBuilder in Java is a class used to create a mutable, or in other words, a modifiable succession of characters.
      char ch[]=str.toCharArray();
      for(char c: ch){
         if(Character.isLowerCase(c)){
            c=Character.toUpperCase(c);
         }
         else{
            c=Character.toLowerCase(c);
         }
```

```
            sb.append(c);
        }
        return sb.toString();//A toString() is an in-built method in Java that returns the value given to it in string format.
    }
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter string: ");
        String str=sc.nextLine();
        System.out.println("Invertcase string is: "+func(str));
        }
}
```

Program 8:

```
import java.util.*;
public class StringAssignment {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter string: ");
        String str=sc.nextLine();
        String str1="";
        char ch[]=str.toCharArray();
        for(int i=str.length()-1;i>=0;i--){
            str1=str1+ch[i];
        }
        System.out.println("Reverse string is: "+str1);
        }
}
```

Problem 9:

```
import java.util.*;
public class StringAssignment {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter string1: ");
        String str1=sc.nextLine();
        System.out.println("Enter string2: ");
        String str2=sc.nextLine();
        char ch1[]=str1.toCharArray();
```

```
        char ch2[]=str2.toCharArray();
        for(int i=0;i<str1.length();i++){
            for(int j=0;j<str2.length();j++){
                if(ch1[i]==ch2[j]&&ch1[i]!=' '&&ch2[j]!=' '){
                    System.out.print(ch1[i]);
                    break;
                }
            }
            for (int j = i + 1; j < str1.length()-1; j++) {
                if (ch1[i] != ' ' && (ch1[i] == ch1[j])) {
                    for (int k = j; k < str1.length()-1; k++) {
                        ch1[k] = ch1[k + 1];
                    }
                }
            }
        }
        }
}
```