Prog 1: Write a program to obtain a string and identify whether it is a palindrome or not

```
import java.util.*;
class StringPalindrome
{
  public static void main(String args[])
  {
    String original, reverse = "";                  // Objects of String class
    Scanner in = new Scanner(System.in);
    System.out.println("Enter a string/number to check if it is a palindrome");
    original = in.nextLine();
    int length = original.length();
    for ( int i = length - 1; i >= 0; i-- )
      {
          reverse = reverse + original.charAt(i);
      }
    if (original.equals(reverse))
      {
          System.out.println("Entered string/number is a palindrome.");
      }
    else
      {
      System.out.println("Entered string/number isn't a palindrome.");
      }
  }
}
```

Output:

```
D:\JAVA\PracticePrograms> javac StringPalindrome.java

D:\JAVA\PracticePrograms>java StringPalindrome
Enter a string/number to check if it is a palindrome
madam
Entered string/number is a palindrome.
```

Prog 2: Write a program in java to Print even and odd numbers in increasing order using two threads.

```
import java.util.Scanner;
public class OddEvenThread implements Runnable
{
        public static void main(String[] args)
        {
                int limit;
                Scanner sc = new Scanner(System.in);
                System.out.print("Enter the limit : ");
                limit = sc.nextInt();
```

```
                // create two threads
                Thread t1 = new Thread(new OddRunnable(limit));
                Thread t2 = new Thread(new EvenRunnable(limit));
                // Start both threads
                t1.start();
                t2.start();
        }
}

class OddRunnable implements Runnable
{
        int limit;
        public OddRunnable(int limit)
        {
                this.limit = limit;
        }
        public void run()
        {
                for (int even =2;even <= limit;even+=2)
                {
                        System.out.println("Even thread : " + even);
                }
        }
}

class EvenRunnable implements Runnable
{
        int limit;
        public EvenRunnable(int limit)
        {
                this.limit = limit;
        }
        public void run()
        {
                for (int odd=1;odd <= limit;odd+=2)
                {
                        System.out.println("Odd thread : " + odd);
                }
        }
}
```

Output:

```
Enter the limit : 10
Odd thread : 1
Odd thread : 3
Odd thread : 5
Odd thread : 7
Odd thread : 9
Even thread : 2
Even thread : 4
Even thread : 6
Even thread : 8
Even thread : 10
```

Prog 3: Write a program to obtain a string, substring, and the string that has to replace the substring and print the modified string.

```
import java.util.Scanner;

public class StringReplaceExample
{
   public static void main(String[] args)
   {
      Scanner scanner = new Scanner(System.in);

      // Obtain user input
      System.out.print("Enter the string: ");
      String string = scanner.nextLine();
      System.out.print("Enter the substring to replace: ");
      String substring = scanner.nextLine();
      System.out.print("Enter the replacement string: ");
      String replacement = scanner.nextLine();

      // Replace the substring with the replacement string
      String modifiedString = string.replace(substring, replacement);

      // Print the modified string
      System.out.println("Modified string: " + modifiedString);
   }
}
```

```
D:\JAVA\PracticePrograms>javac StringReplaceExample.java

D:\JAVA\PracticePrograms>java StringReplaceExample
Enter the string: audacious
Enter the substring to replace: cio
Enter the replacement string: aaa
Modified string: audaaaaus
```

Prog 4: Write a program to accept a string and convert the first character of each word to uppercase.

```
class StringFormatter
{
        public static String capitalizeWord(String str)
        {
                String words[]=str.split("\\s");
                String capitalizeWord="";
                for(String w:words)
                {
                        String first=w.substring(0,1);
                        String afterfirst=w.substring(1);
                        capitalizeWord+=first.toUpperCase()+afterfirst+" ";
                }
```

```
                return capitalizeWord.trim();
        }
}

public class TestStringFormatter
{
        public static void main(String[] args)
        {
                System.out.println(StringFormatter.capitalizeWord("my name is jayden"));
                System.out.println(StringFormatter.capitalizeWord("I am zephaniah"));
        }
}
```

Output:

```
D:\JAVA\PracticePrograms>javac TestStringFormatter.java

D:\JAVA\PracticePrograms>java TestStringFormatter
My Name Is Jayden
I Am Zephaniah
```

Prog 5: Write a program to accept a string and count the number of vowels, consonants present in it.

```
public class CountVowelConsonant {
   public static void main(String[] args) {

      //Counter variable to store the count of vowels and consonant
      int vCount = 0, cCount = 0;

      //Declare a string
      String str = "Jayden Zephaniah";

      //Converting entire string to lower case to reduce the comparisons
      str = str.toLowerCase();

      for(int i = 0; i < str.length(); i++) {

         if(str.charAt(i) == 'a' || str.charAt(i) == 'e' || str.charAt(i) == 'i' || str.charAt(i) == 'o' ||
str.charAt(i) == 'u')
            {
                vCount++;
             }

         else
            {
                cCount++;
             }
```

```
        }
        System.out.println("Number of vowels: " + vCount);
        System.out.println("Number of consonants: " + cCount);
    }
}
```

Output:

```
D:\JAVA\PracticePrograms>javac CountVowelConsonant.java

D:\JAVA\PracticePrograms>java CountVowelConsonant
Number of vowels: 6
Number of consonants: 10
```

Prog 6: Write a program to accept a string and count the number of words present in it.

```
public class CountWords
{
        public static void main(String[] args)
        {
                String str = "Hai I am Jayden";
                int count = 1;
                for (int i = 0; i < str.length() - 1; i++)
                 {
                        if ((str.charAt(i) == ' ') && (str.charAt(i + 1) != ' '))
                        {
                                count++;
                        }
                }
                System.out.println("Number of words in the String : " + count);
        }
}
```

Output:

```
D:\JAVA\PracticePrograms>javac CountWords.java

D:\JAVA\PracticePrograms>java CountWords
Number of words in a string : 4
```