For loop

Write a Java program to display all prime numbers between 1 and 100 using a for loop.

```
public class Main
{
	public static void main(String[] args) {
	   System.out.println("Prime numbers between 1 to 100 are: ");
		for(int n=2; n<=100; n++){
		boolean isPrime = true;
		for(int i=2; i<=n/2; i++){
		   if(n%i==0){
		      isPrime=false;
		   }
		}
		if(isPrime){
		System.out.print(n+ " ");
		}

		}
	}
}
```

Write a Java program to calculate the sum of all numbers between 1 and 100 using a for loop.

```
public class Main
{
	public static void main(String[] args) {
		int sum=0;
		for(int i=1; i<=100;i++){
		   sum+=i;
		}
		System.out.print("Sum of all numbers between 1 to 100: "+ sum);
	}
}
```

Write a Java program to print the multiplication table of a given number using a for loop.

```
import java.util.Scanner;
public class Main
{
	public static void main(String[] args) {
	Scanner sc = new Scanner(System.in);
	System.out.print("Enter a number: ");
```

```
        int n = sc.nextInt();
        System.out.print("Enter the range: ");
        int r=sc.nextInt();
        System.out.println("Multiplication table for "+ n+" is :");
        for(int i=1; i<=r; i++){
            System.out.println(n +" * "+i+" = "+n*i);
        }
        }
}
```

Write a Java program to print the Fibonacci series up to a given number using a for loop.

```
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int n = sc.nextInt();
        int first=0;
        int sec=1;
         int next;
        System.out.print(first +" " + sec);
        for(int i=2;i<n;i++){
            next=first+sec;
            System.out.print(" " + next);
            first=sec;
            sec=next;
        }
        }

}
```

Write a Java program to find the factorial of a given number using a for loop.

```
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int n = sc.nextInt();
        int fact=1;
        for(int i=1; i<=n; i++){
```

```
            fact*=i;
        }
        System.out.println("The factorial of "+n+" is: "+fact);
        }
}
```

Write a Java program to print the sum of all even numbers between 1 and 100 using a for loop.

```
public class Main
{
        public static void main(String[] args) {
        System.out.print("Sum of all even numbers between 1 and 100 is: ");
        int sum=0;
        for(int i=1; i<=100; i++){
            if(i%2==0)
              sum+=i;
        }
        System.out.println(sum);
        }
}
```

OR

```
public class Main
{
        public static void main(String[] args) {
        System.out.print("Sum of all even numbers between 1 and 100 is: ");
        int sum=0;
        for(int i=2; i<=100; i+=2){
              sum+=i;
        }
        System.out.println(sum);
        }
}
```

Write a Java program to print the first n terms of the geometric series using a for loop.

```
//Formula -  a,ar,ar^2,ar^3,.....
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter the first term: ");
```

```
            int a = sc.nextInt();
            System.out.print("Enter the common ratio: ");
            int r = sc.nextInt();
            System.out.print("Enter the number of terms: ");
            int n = sc.nextInt();
            System.out.print("The Geometric series of first "+n+" terms are: ");
            for(int i=0; i<n; i++){
                double series = a*Math.pow(r, i);
        System.out.print((int)series+" ");
            }
        }
}
```

Write a Java program to print all Armstrong numbers between 1 and 1000 using a for loop.

```
public class Main
{
        public static void main(String[] args) {
   for(int n=1; n<=1000; n++){
      int original=n;
      int noOfDig=0;
      int sum=0;
      for(original=n; original>0; noOfDig++){
         original/=10;
      }
      for(original=n;original>0; ){
         int digit=original%10;
         sum+=Math.pow(digit, noOfDig);
         original/=10;
      }
      if(n==sum){
      System.out.print(n+" ");
      }
   }
 }
}
```

Write a Java program to find the GCD of two numbers using a for loop.

```
import java.util.Scanner;
public class Main {
public static void main(String[] args) {
Scanner sc = new Scanner(System.in);
   System.out.print("Enter 1st Num");
```

```
    int num1=sc.nextInt();
    System.out.print("Enter 2nd Num");
    int num2=sc.nextInt();
    int gcd=0;

    for (int i=1;i<=num1 && i<=num2;i++) {
        if(num1%i==0 && num2%i==0) {

            gcd=i;
        }
    }
    System.out.println("GCD of two numbers: "+gcd);
}
}
```

While loop

Write a Java program to find the factorial of a given number using a while loop.

```
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter the number: ");
            int n = sc.nextInt();
            int factorial=1;
            int i=1;
            while(i<=n){
                factorial*=i;
                i++;
            }
            System.out.print("Factorial is: "+factorial);
        }
}
```

Write a Java program to print the multiplication table of a given number using a while loop.

```
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter the number: ");
```

```
        int n = sc.nextInt();
        System.out.print("Enter the range: ");
    int r=sc.nextInt();
    System.out.println("Multiplication table for "+ n+" is :");
    int i=1;
    while(i<=r){
        System.out.println(n+" * "+i+" = "+n*i);
        i++;
    }
    }
}
```

Write a Java program to display all prime numbers between 1 and 100 using a while loop.

```
public class Main
{
    public static void main(String[] args) {
      int n=2;
      while(n<=100){
        boolean isPrime=true;
        int i=2;
        while(i<=n/2){
          if(n%i==0){
            isPrime=false;
          }
          i++;
        }
        if(isPrime){
          System.out.print(n+" ");
        }
        n++;
      }
    }
}
```

Write a Java program to print the Fibonacci series up to a given number using a while loop.

```
import java.util.Scanner;
public class Main
{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int n= sc.nextInt();
```

```
            int first = 0;
            int second = 1;
            System.out.print("Fibonacci Series of first "+n+" numbers are: "+first+" "+second);
            int next;
            int i=2;
            while(i<n){
                next=first+second;
                System.out.print(" "+next);
                first=second;
                second=next;
                i++;
            }
        }
}
```

Write a Java program to print the sum of all even numbers between 1 and 100 using a while loop.

```
public class Main
{
        public static void main(String[] args) {
            System.out.print("sum of all even numbers between 1 and 100 is: ");
            int sum=0;
            int i=1;
            while(i<=100){
                if(i%2==0){
                    sum+=i;
                }
                i++;
            }
            System.out.print(sum);
        }
}
```

Write a Java program to check whether a given number is palindrome or not using a while loop.

```
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter a number: ");
            int n = sc.nextInt();
            int temp=n;
            int lastDigit;
            int sum=0;
```

```
            while(n>0){
                lastDigit=n%10;
                sum=(sum*10)+lastDigit;
                n/=10;
            }
            if(sum==temp){
                System.out.print("The number "+temp+" is Palindrome");
            }
            else{
                System.out.print("The number "+temp+" is not Palindrome");
            }
        }
}
```

Write a Java program to print all the factors of a given number using a while loop.

```
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter a number: ");
            int n = sc.nextInt();
            int i=1;
            System.out.print("The factors of "+n+" are: ");
            while(i<=n){
                if(n%i==0){
                    System.out.print(i+" ");
                }
                i++;
            }
        }
}
```

Write a Java program to reverse a given number using a while loop.

```
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter a number: ");
            int n = sc.nextInt();
            int revNum=0;
            int lastDigit;
```

```
            int temp=n;
            while(temp>0){
                lastDigit = temp%10;
                revNum = (revNum*10)+lastDigit;
                temp/=10;
            }
            System.out.print("The reverse of "+n+" is "+revNum);
        }
}
```

Write a Java program to calculate the sum of digits of a given number using a while loop.

```
import java.util.Scanner;
public class Main
{
        public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter a number: ");
            int n = sc.nextInt();
            int lastDig;
            int temp=n;
            int sum=0;
            while(n>0){
                lastDig=n%10;
                sum+=lastDig;
                n/=10;
            }
            System.out.print("The sum of digits of "+temp+" is: "+sum);
        }
}
```

Write a Java program to find the Armstrong numbers between 1 and 1000 using a while loop.

```
public class Main
{
        public static void main(String[] args) {
         int n=1;
         while(n<=1000){
             int original=n;
             int noOfDig =0;
             int sum=0;
             while(original>0){
                 original/=10;
                 noOfDig++;
             }
```

```
            original=n;
            while(original>0){
               int digit=original%10;
              sum+=Math.pow(digit, noOfDig);
             original/=10;
            }
            if(n==sum){
                System.out.print(n+ " ");
            }
          n++;
         }
        }
}
```

Do-while loop

Write a Java program to calculate the factorial of a given number using a do-while loop.

```
import java.util.Scanner;
public class Main {
   public static void main(String[] args) {
       Scanner sc = new Scanner(System.in);
       System.out.print("Enter a  number: ");
       int n=sc.nextInt();
       int factorial=1;
       int i=1;
       do{
          factorial*=i;
          i++;
       }while(i<=n);
       System.out.print("Factorial is: "+factorial);
    }
}
```

Write a Java program to print the multiplication table of a given number using a do-while loop.

```
import java.util.Scanner;
public class Main {
   public static void main(String[] args) {
       Scanner sc = new Scanner(System.in);
       System.out.print("Enter a  number: ");
```

```
        int n=sc.nextInt();
        System.out.print("Enter the range: ");
        int r = sc.nextInt();
        int i=1;
        do{
            System.out.println(n+" * " + i+" = "+n*i);
            i++;
        }while(i<=r);
    }
}
```

Write a Java program to display all prime numbers between 1 and 100 using a do-while loop.

```
public class Main {
   public static void main(String[] args) {
       System.out.println("Prime numbers between 1 to 100 are: ");
        int n=2;
        do{
            boolean isPrime=true;
            int i=2;
            do{
              if(n%i==0){
                  isPrime=false;
              }
              i++;
            }while(i<=n/2);
            if(isPrime){
               System.out.print(n+" ");
            }
            n++;
        }while(n<=100);
    }
}
```

Write a Java program to print the Fibonacci series up to a given number using a do-while loop.

```
import java.util.Scanner;
public class Main {
   public static void main(String[] args) {
       Scanner sc = new Scanner(System.in);
       System.out.print("Enter a number: ");
       int n= sc.nextInt();
       int first = 0;
```

```
      int second = 1;
      System.out.print("Fibonacci series of first "+n+" numbers are: "+first+" "+second);
      int next=0;
      int i=2;
      do{
         next=first+second;
         System.out.print(" "+next);
         first=second;
         second=next;
         i++;
      }while(i<n);
   }
}
```

Write a Java program to print the sum of all even numbers between 1 and 100 using a do-while loop.

```
public class Main {
   public static void main(String[] args) {
      System.out.print("Sum of all even numbers between 1 to 100: ");
      int sum=0;
      int i=1;
      do{
         if(i%2==0){
            sum+=i;
         }
         i++;
      }while(i<=100);
      System.out.print(sum);
   }
}
```

Write a Java program to check whether a given number is palindrome or not using a do-while loop.

```
import java.util.Scanner;
public class Main {
   public static void main(String[] args) {
      Scanner sc =  new Scanner(System.in);
      System.out.print("Enter a number: ");
      int n = sc.nextInt();
      int temp=n;
      int sum=0;
      int lastDig;
      do{
         lastDig=n%10;
```

```
        sum=(sum*10)+lastDig;
        n/=10;
      }while(n>0);
      if(temp==sum){
        System.out.println("The number "+temp+" is a palindrome");
      }
      else{
        System.out.println("The number "+temp+" is not a palindrome");
      }
    }
}
```

Write a Java program to print all the factors of a given number using a do-while loop.

```
import java.util.Scanner;
public class Main {
  public static void main(String[] args) {
    Scanner sc =  new Scanner(System.in);
    System.out.print("Enter a number: ");
    int n = sc.nextInt();
    System.out.print("The factors of number "+n+" are: ");
    int i=1;
    do{
      if(n%i==0){
        System.out.print(i+" ");
      }
     i++;
    }while(i<=n);
  }
}
```

Write a Java program to reverse a given number using a do-while loop.

```
import java.util.Scanner;
public class Main {
  public static void main(String[] args) {
    Scanner sc =  new Scanner(System.in);
    System.out.print("Enter a number: ");
    int n = sc.nextInt();
    int temp=n;
    int sum=0;
    int lastDig;
    do{
      lastDig=n%10;
```

```
        sum=(sum*10)+lastDig;
        n/=10;
    }while(n>0);
    System.out.print("The reverse of "+temp+" is: "+sum);
  }
}
```

Write a Java program to calculate the sum of digits of a given number using a do-while loop.

```
import java.util.Scanner;
public class Main {
  public static void main(String[] args) {
    Scanner sc =  new Scanner(System.in);
    System.out.print("Enter a number: ");
    int n = sc.nextInt();
    int temp=n;
    int sum=0;
    int lastDig;
    do{
        lastDig=n%10;
        sum+=lastDig;
        n/=10;
    }while(n>0);
    System.out.print("Sum of digits of number "+temp+" is: "+sum);
  }
}
```

Write a Java program to find the Armstrong numbers between 1 and 1000 using a do-while loop.

```
public class Main{
  public static void main(String[] args){
      System.out.print(" Armstrong numbers between 1 and 1000 are: ");
      int n=1;
      do{
          int original = n;
          int noOfDig = 0;
          int sum=0;
          int i=1;
          do{
              original/=10;
              noOfDig++;
          }while(original>0);
```

```
            original=n;
            do{
               int lastDig = original%10;
               sum +=Math.pow(lastDig, noOfDig);
               original/=10;
            }while(original>0);
            if(n==sum){
             System.out.print(n+" ");
            }
          n++;
        }while(n<=1000);
    }
}
```