Week 5

1. *Write a Java program to insert 10, 20, 30 ....in an array and display them.*

Program:

package week5;

import java.util.Scanner;

public class arrayinput{

   public static void main(String[] args){

      Scanner input=new Scanner(System.in);

      int array[]=new int[3];

      for(int i=0;i<3;i++){

         System.out.print("Enter Integer-"+(i+1)+": ");

         array[i]=input.nextInt();

      }

      System.out.print("Entered Integers are: ");

      for(int i=0;i<3;i++){

         System.out.print(array[i]+" ");

      }

   }

}

Output:


```
Output - arrayinput.java  ×
    Enter Integer-1: 10
    Enter Integer-2: 20
    Enter Integer-3: 30
    Entered Integers are: 10 20 30
```

2. *Write a Java program to calculate the sum of all the array elements.*

Program:

package week5;

public class sumofarray{

   public static void main(String[] args){

      int[] array={10,20,30,40,50};

      int sum=0;

      for(int i=0;i<5;i++){

         sum+=array[i];

      }

      System.out.print("Sum of all elements of the array: "+sum);

   }

}

Output:

```
Output - sumofarray.java  ×
    Sum of all elements of the array: 150
```

3. *Write a java program to print the following pattern.*

```
    1
   12
  123
 1234
12345
```

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Program:

```java
package week5;

public class numpattern{
    public static void main(String[] args){
        for(int i=0;i<5;i++){
            int x=1;
            for(int j=0;j<5;j++){
                if(i+j<4){
                    System.out.printf(" ");
                }
                else{
                    System.out.printf("%d",x);
                    x++;
                }
            }
            System.out.printf("\n");
        }
    }
}
```

Output:

```
Output - numpattern.java  ×
        1
       12
      123
     1234
    12345
```

4. Write a java program to find the sum of following series where n is input by the user.

1+1/2+1/3+1/4+……………+1/n.

Program:

```java
package week5;

import java.util.Scanner;

public class sumofharmonicseries{

    public static void main(String[] args){

        Scanner input=new Scanner(System.in);

        System.out.print("Enter n for nth term of the harmonic series: ");

        int n=input.nextInt();

        double sum=0;

        for(double i=1.0;i<=n;i++){

            double x=1/i;

            sum+=x;

        }

        System.out.print("Sum of first "+n+" terms of harmonic series is: "+sum);

    }

}
```
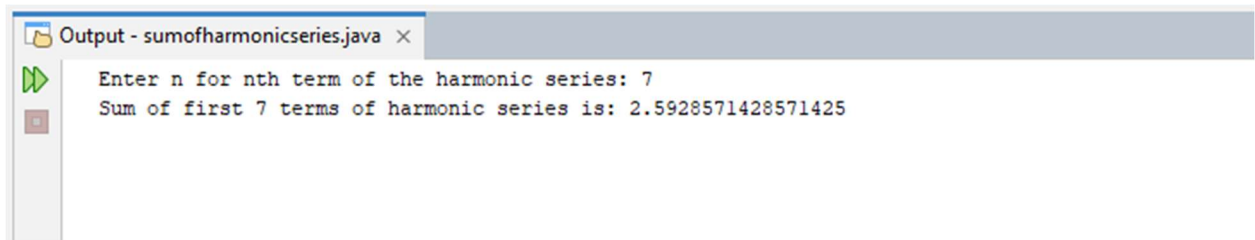
Output:

```
Output - sumofharmonicseries.java ×

    Enter n for nth term of the harmonic series: 7
    Sum of first 7 terms of harmonic series is: 2.5928571428571425
```

5. *Write a Java program and compute the sum of the digits of an integer.*

Program:

package week5;

import java.util.Scanner;

public class sumofdigits{

    public static void main(String[] args){

        Scanner input=new Scanner(System.in);

        System.out.print("Enter a positive integer: ");

        int num=input.nextInt();

        int lsd, sum=0;

        while(num!=0){

           lsd=num%10;
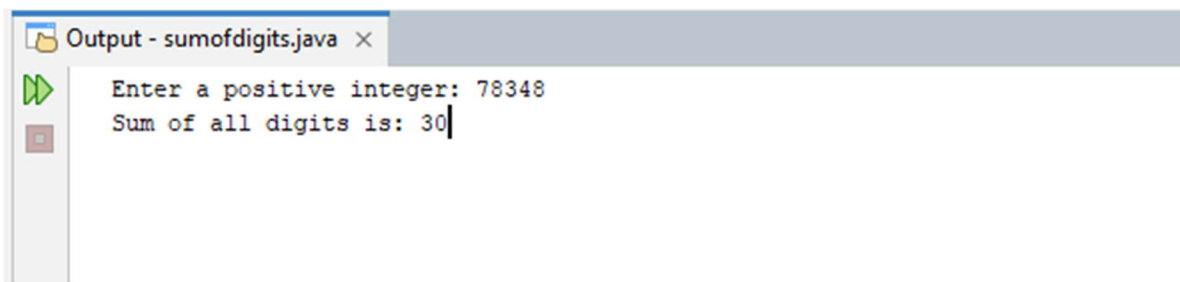
           sum+=lsd;

           num/=10;

        }

        System.out.print("Sum of all digits is: "+sum);

    }

}

Output:

```
Output - sumofdigits.java  ×
    Enter a positive integer: 78348
    Sum of all digits is: 30
```

6. *Write a Java program to calculate the factorial of a number.*

Program:

package week5;

public class factorial {

   public static void main(String args[]) {

      int num=10; int fact=num;

      for(int i=2;i<num;i++){

         fact*=i;

      }

      System.out.println("Factorial of "+num+" is "+fact);

   }

}

Outcome:

```
Output - factorial.java  ×
    Factorial of 10 is 3628800
```