OOPS IN JAVA

TUTORIAL - 3

Karthik Krishnan

Roll No: 45

S3 CSE B

Control Statements

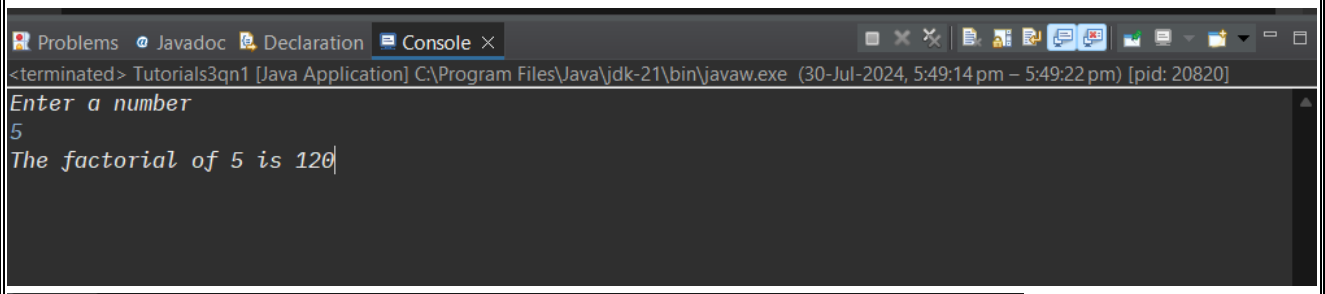
Module - 2

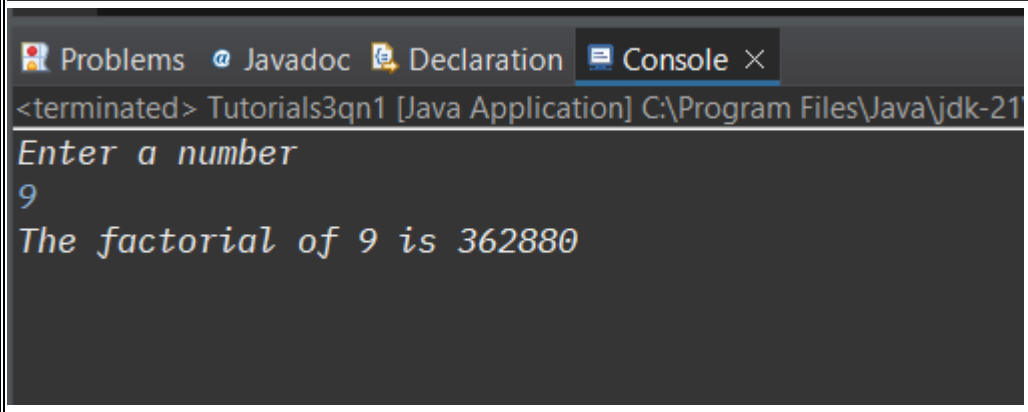
Qn 1) Write a Java program to print the factorial of a given number using a while loop.

Arithmetica... | Numbersign.java | Tutorials5q... | Tutorials5q... | Tutorials3q... | Tutorials3q...

```
/*
TUTORIALS 3
MODULE - 2
CONTROL STATEMENTS
QN 1)
Write a Java program to print the factorial of a given number using a while loop.

Karthik Krishnan
S3 CSE B
Roll: 45
*/

package Tutorials3;
import java.util.Scanner;
public class Tutorials3qn1 {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number");
        int num = sc.nextInt();

        int fact = 1;
        int i = 1;

        while(i <= num)
        {
            fact *= i;
            i++;
        }
        System.out.println("The factorial of " + num + " is " + fact);

        sc.close();

    }

}
```

OUTPUT:


Problems
Javadoc
Declaration
Console
<terminated> Tutorials3qn1 [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (30-Jul-2024, 5:49:14 pm – 5:49:22 pm) [pid: 20820]
Enter a number
5
The factorial of 5 is 120

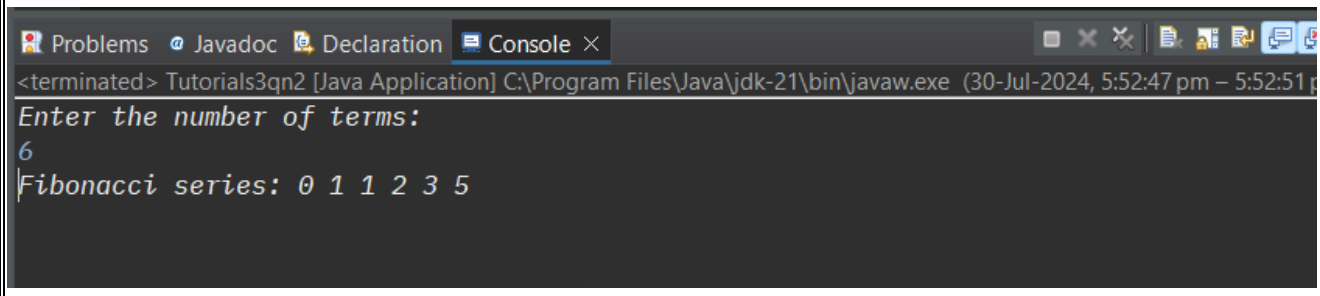

Problems
Javadoc
Declaration
Console
<terminated> Tutorials3qn1 [Java Application] C:\Program Files\Java\jdk-21
Enter a number
9
The factorial of 9 is 362880

Qn 2) Write a java program to print the Fibonacci series up to a given number using a while loop

Arithmetica... | Numbersign.java | Tutorials5q... | Tutorials3q... | Tutorials3q... | Tutorials3q...

```
/*
 TUTORIALS 3
 MODULE - 2
 CONTROL STATEMENTS
 QN 2)
Write a Java program to print the Fibonacci series up to a given number using a
while loop.

 Karthik Krishnan
 S3 CSE B
 Roll: 45
 */

package Tutorials3;
import java.util.Scanner;
public class Tutorials3qn2 {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the number of terms: ");
        int num = sc.nextInt();

        int a = 0; //a - first number
        int b = 1; //b - second number

        System.out.print("Fibonacci series: " + a + " " + b);

        int temp = a + b;

        while (temp <= num)
        {
            System.out.print(" " + temp);
            a = b;
            b = temp;
            temp = a + b;
        }

        sc.close();



    }

}
```

OUTPUT:


Problems
Javadoc
Declaration
Console
<terminated> Tutorials3qn2 [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (30-Jul-2024, 5:52:47 pm – 5:52:51
Enter the number of terms:
6
Fibonacci series: 0 1 1 2 3 5

Qn 3) write a java program to print the reverse of a given number using a for loop.

Arithmetica... | Numbersign.java | Tutorials3q... | Tutorials3q... | Tutorials3q... | Tutorials3q...

```
/*
 TUTORIALS 3
 MODULE - 2
 CONTROL STATEMENTS
 QN 3)
Write a Java program to print the reverse of a given number using a for loop.

 Karthik Krishnan
 S3 CSE B
 Roll: 45
 */
```

```
package Tutorials3;
import java.util.Scanner;
public class Tutorials3qn3 {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        Scanner sc = new Scanner(System.in);

        System.out.println("Enter a number");
        int num = sc.nextInt();

        int rev = 0;

        for(int n = num; n != 0; n/=10)
        {
            int digit = n %10;
            rev = rev * 10 + digit;
        }

        System.out.println("The reverse of " + num + " is " + rev);

        sc.close();
    }

}
```

OUTPUT:

Problems | Javadoc | Declaration | Console

```
<terminated> Tutorials3qn3 [Java Application] C:\Program Files\Java\jdk-21\bin\java
Enter a number
12487
The reverse of 12487 is 78421
```

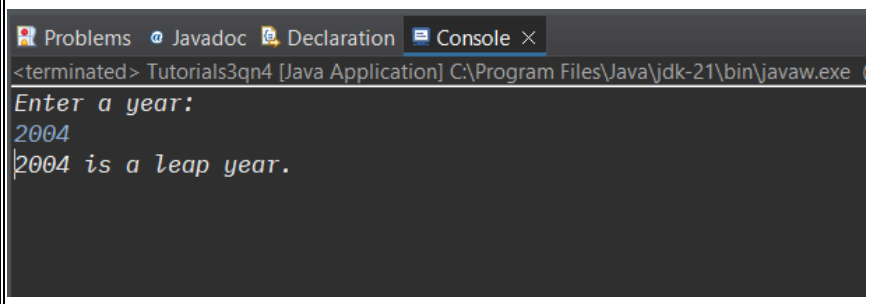
Qn 4) write a java program to check if a leap year or not using if-else statemenets.

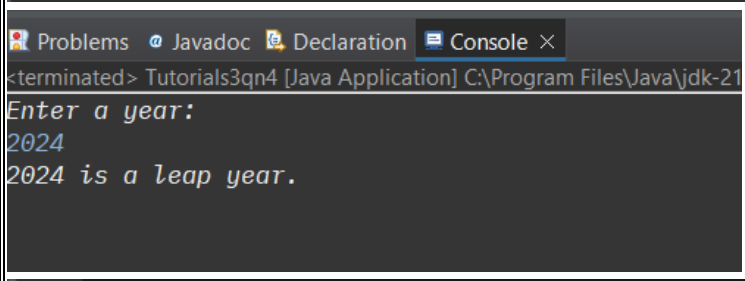
Arithmetica... | Tutorials3q... | Tutorials3q... | Tutorials3q... | Tutorials3q... | Tutorials3q...

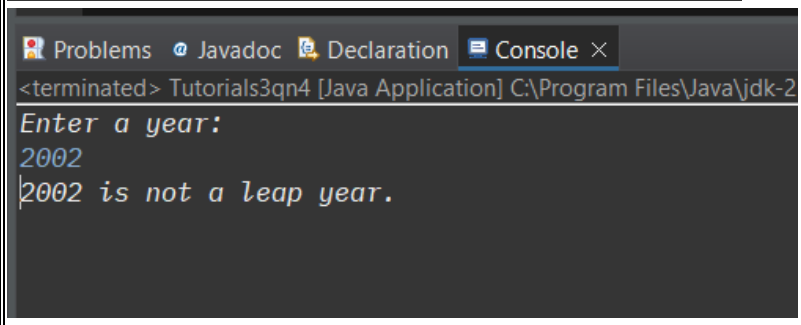
```
/*
 TUTORIALS 3
 MODULE - 2
 CONTROL STATEMENTS
 QN 4)
Write a Java program to check if a given year is a leap year or not using if-else
statements.

 Karthik Krishnan
 S3 CSE B
 Roll: 45
 */

```

```
package Tutorials3;

import java.util.Scanner;

public class Tutorials3qn4 {

    public static void main(String[] args)
    {
        // TODO Auto-generated method stub
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a year: ");
        int year = sc.nextInt();

        if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))
        {
            System.out.println(year + " is a leap year.");
        }
        else
        {
            System.out.println(year + " is not a leap year.");
        }

        sc.close();


    }

}
```

OUTPUT:


Problems
Javadoc
Declaration
Console
<terminated> Tutorials3qn4 [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe
Enter a year:
2004
2004 is a leap year.


Problems
Javadoc
Declaration
Console
<terminated> Tutorials3qn4 [Java Application] C:\Program Files\Java\jdk-21
Enter a year:
2024
2024 is a leap year.


Problems
Javadoc
Declaration
Console
<terminated> Tutorials3qn4 [Java Application] C:\Program Files\Java\jdk-2
Enter a year:
2002
2002 is not a leap year.

Qn 5) write a java program to print all prime numbers between 1 and 100 using a for loop and if-else statements.

Arithmetica... | Tutorials3q... | Tutorials3q... | Tutorials3q... | Tutorials3q... | Tutorials3q...

```java
/*
 TUTORIALS 3
 MODULE - 2
 CONTROL STATEMENTS
 QN 5)
Write a Java program to print all prime numbers between 1 and 100 using a for
loop and if-else statements

 Karthik Krishnan
 S3 CSE B
 Roll: 45
 */

package Tutorials3;
public class Tutorials3qn5 {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        System.out.println("Prime numbers between 1 and 100: ");
        for(int num = 2; num <= 100; num++)

        {
            int divisor = 2;
            int Prime = 1;

            while (divisor <= Math.sqrt(num))
            {
                if (num % divisor == 0)
                {
                    Prime = 0;
                    break;
                }
                divisor++;
            }
            if (Prime==1)
            {
                System.out.print(num + " ");
            }
        }
    }
}
```

Problems | Javadoc | Declaration | Console

<terminated> Tutorials3qn5 [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (30-Jul-2024, 6:16:09 pm – 6:16:1

```
Prime numbers between 1 and 100:
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97
```