ASSIGNMENT - 2

AMARAVATI

VIT AP

School of Computer Science and Engineering
CSE1004 – Problem Solving Using Java
Digital Assignment

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PROBLEM 1

The formula for computing the number of ways of choosing 'r' different things from a set of 'n' things is the define as C(n, r) = n!/(r! * (n – r)!). Write a method, static double com(int n, int r) to find the value of the C(n, r). This method further invokes a recursive method, static int fac(int n). Here, method static int fac(int n) recursively finds factorial of a number passed as an argument. Write the complete program.

JAVA CODE :

```
Import java.util.*;
 class Main
 {
static double com(int n, int r)
  {
    return fact(n) / (fact(r) *
                fact(n - r));
  }
      static int fact(int n)
     {
       int res = 1;
         for (int i = 2; i <= n; i++)
            res = res * i;
            return res;
     }

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

```
    double n=0,r=0;
     Scanner in = new Scanner(System.in);
      double n = in.nextDouble();
      double r = in.nextDouble();
    System.out.println(com(n, r));
  }
}
```

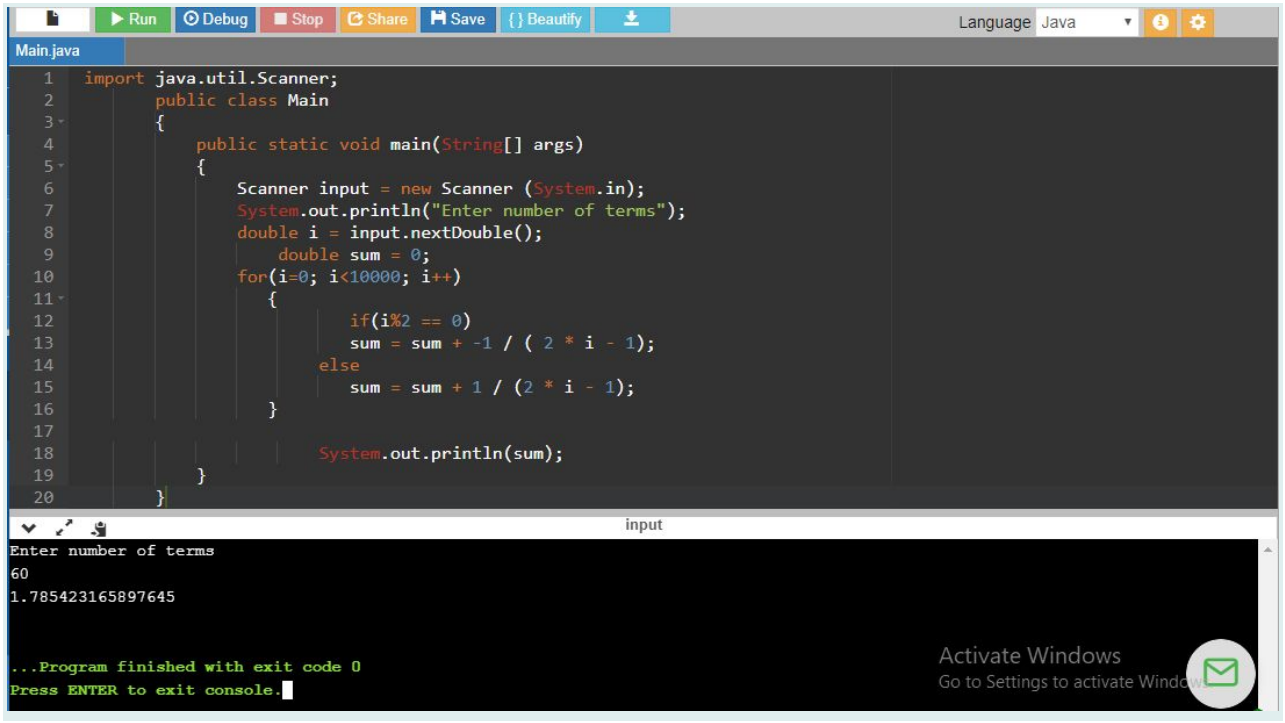
1. **Write a program to find Pi value using following series (up-to n terms) using method.**

   $pi = 4 - 4/3 + 4/5 - 4/7 + 4/9 - 4/11 + \cdots$

Java code :

```
import java.util.Scanner;
        public class Main
        {
            public static void main(String[] args)
            {
                Scanner input = new Scanner (System.in);
                System.out.println("Enter number of terms");
                double i = input.nextDouble();
                    double sum = 0;
                for(i=0; i<10000; i++)
                  {
                        if(i%2 == 0)
                        sum = sum + -1 / ( 2 * i - 1);
                      else
                        sum = sum + 1 / (2 * i - 1);
                  }

                      System.out.println(sum);
            }
        }
```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Language Java
Main.java
import java.util.Scanner;
public class Main
{
public static void main(String[] args)
{
Scanner input = new Scanner (System.in);
System.out.println("Enter number of terms");
double i = input.nextDouble();
double sum = 0;
for(i=0; i<10000; i++)
{
if(i%2 == 0)
sum = sum + -1 / (2 * i - 1);
else
sum = sum + 1 / (2 * i - 1);
}
System.out.println(sum);
}
}
input
Enter number of terms
60
1.785423165897645
...Program finished with exit code 0
Press ENTER to exit console.
Activate Windows
Go to Settings to activate Windows.