Assignment -1

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1. Write a program to find the grade for a given mark according to the grading rule of your university.

*Solution : -*

import java.util.Scanner;

public class UserInteraction {

public static void main(String[] args) {

Scanner scan = new Scanner(System.in);

int choice = 0;

String[] subjects = new String[10];

int grades[] = new int[10];

double sum = 0.0;

do

{

System.out.println("1. Enter a course name and a grade");

System.out.println("2. Display all grades");

System.out.println("3. Calculate the average grade");

System.out.println("4. Exit program");

choice = scan.nextInt();

if ( choice == 1 )

{

Scanner scansubjects = new Scanner(System.in);

Scanner scangrades = new Scanner(System.in);

System.out.println("Enter 10 subjects and their corresponding grades:");

System.out.println();

int i = 0;

for( i = 0; i < 10; i++ )

{

System.out.println("Subject:");

String temp = scansubjects.nextLine();

subjects[i] = temp.toLowerCase();

System.out.println("Grade:");

grades[i] = scangrades.nextInt();

if( i == ( subjects.length - 1 ) )

{

System.out.println("Thank you!");

System.out.println();

}

}

}

if ( choice == 2 )

{

System.out.println("Subjects" + "\tGrades");

System.out.println("---------------------");

for(int p = 0; p < subjects.length; p++)

{

System.out.println(subjects[p] + "\t" + "\t" + grades[p]);

}

}

if ( choice == 3 )

{

System.out.println("Total of grades: " + getSum(grades));

System.out.println("Count of grades: " + grades.length);

System.out.println("Average of grades: " + getAverage(grades));

System.out.println();

}

} while ( choice != 4);

}

public static double getAverage(int[] array)

{

int sum = 0;

for(int i : array) sum += i;

return ((double) sum)/array.length;

}

public static double getSum(int[] array)

{

int sum = 0;

for (int i : array)

{

sum += i;

}

return sum;

}

}

1. Write a program to test a year if it is leap year or not.

*Solution : -*

import java.util.Scanner;

public class Exercise9 {

public static void main(String[] args)

{

Scanner in = new Scanner(System.in);

System.out.print("Input the year: ");

int year = in.nextInt();

boolean x = (year % 4) == 0;

boolean y = (year % 100) != 0;

boolean z = ((year % 100 == 0) && (year % 400 == 0));

if (x && (y || z))

{

System.out.println(year + " is a leap year");

}

else

{

System.out.println(year + " is not a leap year");

}

}

}

1. Write a program to evaluate the following series 12+32+52+………………………. Up to n terms

*Solution : -*

**import** **java.io.\***;

**class** **Series**

{

**public** **static** void main(String args[]) **throws** IOException

{

BufferedReader br = **new** BufferedReader(**new** InputStreamReader(System.in));

Series call = **new** Series();

System.out.print("Enter value of n : ");

int n = Integer.parseInt(br.readLine());

System.out.println("Sum of series = " +call.sum(n));

}

int sum(int n)

{

**if**(n==1)

**return** 1;

**else**

return (n\*n)+sum(n-1);

}

}

1. Write a program to evaluate the following series 1-2+3-4+………………………. Up to n terms

*Solution : -*

import java.util.Scanner;

public class Series {

    public static int series1(int n) {

        int sum = 0;

        for (int i = 1; i <= n; i++) {

            if (i % 2 == 0) {

                sum = sum - i;

            } else {

                sum = sum + i;

            }

        }

        return sum;

    }

public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter n for series 1: ");

        int n1 = scanner.nextInt();

        int series1 = series1(n1);

        System.out.println("Sum of series 1 is " + series1);

        System.out.print("Enter n for series 2: ");

        int n2 = scanner.nextInt();

        System.out.print("Enter x for series 2: ");

        int x = scanner.nextInt();

}

1. Write a program to find the factorial of a number.

*Solution : -*

**class** FactorialExample{

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

**int** i,fact=1;

**int** number=5;//It is the number to calculate factorial

**for**(i=1;i<=number;i++){

      fact=fact\*i;

  }

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

 }

}

6 . Write a program to find the power for a given base and exponent.

*Solution : -*

package exponent;

import java.io.BufferedReader;

import java.io.InputStreamReader;

public static void main(String[] args) throws Exception {

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

int b,e;

System.out.println("Enter the base");

b = Integer.parseInt(br.readLine());

System.out.println("Enter the power");

e = Integer.parseInt(br.readLine());

int t = 1;

for(int i = 1;i <= e; i++);

{

t=t\*b;

}

System.out.println(t);

}

}