1. **Write a program to find out the sum of squares of n numbers.**

package firstProgram;

import java.io.\*;

import java.util.\*;

import java.util.Scanner.\*;

public class Squares{

public static int sum\_of\_squares(int val){

return (val \*(val + 1) / 2) \* (2 \* val + 1) / 3;

}

public static void main(String[] args){

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a value: ");

int val = scanner.nextInt();

System.out.println("The sum of squares of first " + val + " natural numbers is ");

System.out.println(sum\_of\_squares(val));

scanner.close();

}

}

**2. Write a program to find out the factorial of a given number:**

import java.util.Scanner;

public class FactorialCalculator {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a non-negative integer: ");

int number = scanner.nextInt();

if (number < 0) {

System.out.println("Factorial is not defined for negative numbers.");

} else {

factorial = calculateFactorial(number);

System.out.println("The factorial of " + number + " is: " + factorial);

}

scanner.close();

}

public static long calculateFactorial(int n) {

if (n == 0 || n == 1) {

return 1;

} else {

return n \* calculateFactorial(n - 1);

}

}

}

1. **Write a program to find whether the given number is prime number or not.**

package thirdProgram;

import java.util.Scanner;

public class PrimeCheck {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a number: ");

int number = scanner.nextInt();

boolean isPrime = checkPrime(number);

if (isPrime) {

System.out.println(number + " is a prime number.");

} else {

System.out.println(number + " is not a prime number.");

}

scanner.close();

}

public static boolean checkPrime(int num) {

if (num < 2) {

return false;

}

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

if (num % i == 0) {

return false;

}

}

return true;

}

}

1. **\* Write a program to list all prime numbers below 200.**

package fifthProgram;

import java.util.Scanner;

public class allprime {

public static void main(String[] args) {

int n,count=0;

System.out.println("enter number :");

Scanner sc=new Scanner(System.in);

n=sc.nextInt();

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

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

if(i%j==0)

count++;

}

if(count==2)

System.out.println(i);

count=0;

}

}

}

1. **Write a program to generate Fibonacci series up to n.**

import java.util.Scanner;

public class Fibbonocci {

public static void main(String[] args) {

Scanner input=new Scanner(System.in);

System.out.println("Enter the Series of Number: ");

int i = 1;

int n=input.nextInt();

int firstTerm = 0;

int secondTerm = 1;

System.out.println("Fibonacci Series" + n + " terms:");

while (i <= n) {

System.out.print(firstTerm + ", ");

int nextTerm = firstTerm + secondTerm;

firstTerm = secondTerm;

secondTerm = nextTerm;

i++;

}

}

}

1. **Write a program to find out the sum of digits of a given number.**

package sixthProgram;

import java.util.Scanner;

public class SumOfDigits {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter a number: ");

int number = input.nextInt();

int sum = 0;

while (number != 0) {

int digit = number % 10;

sum += digit;

number /= 10;

}

System.out.println("Sum of digits in the given number: " + sum);

}

}

1. **Write a program to read an array of 10 numbers and compute the sum, average, largest, second largest and smallest number**

package seventhProgram;

import java.util.Scanner;

public class ArrayStatistics {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

int[] numbers = new int[10];

System.out.println("Enter 10 numbers:");

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

numbers[i] = scanner.nextInt();

}

int sum = 0;

int largest = Integer.MIN\_VALUE;

int secondLargest = Integer.MIN\_VALUE;

int smallest = Integer.MAX\_VALUE;

for (int number : numbers) {

sum += number;

if (number > largest) {

secondLargest = largest;

largest = number;

} else if (number > secondLargest && number != largest) {

secondLargest = number;

}

if (number < smallest) {

smallest = number;

}

}

double average = (double) sum / 10;

System.out.println("Sum: " + sum);

System.out.println("Average: " + average);

System.out.println("Largest: " + largest);

System.out.println("Second Largest: " + (secondLargest == Integer.MIN\_VALUE ? "N/A" : secondLargest));

System.out.println("Smallest: " + smallest);

}

}

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