Level 2 Practice Programs

1. Write a program to take 2 numbers and print their quotient and reminder

**Hint =>** Use division operator (/) for quotient and moduli operator (%) for reminder

**I/P =>** number1, number2

**O/P =>** The Quotient is 5 and Reminder is 0 of two numbers 10 and 2

**Sol:**

import java.util.\*;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the 1st number: ");

int number1 = sc.nextInt();

System.out.print("Enter the 2nd number(smaller than 1st one): ");

int number2 = sc.nextInt();

int quotient = number1/number2;

int remainder = number1%number2;

System.out.println("The Quotient is " + quotient + " and Reminder is " + remainder + " of two numbers " + number1 + " and " + number2);

}

}

1. Write an ***IntOperation*** program by taking a, b, and c as input values and print the following integer operations a + b \*c, a \* b + c, c + a / b, and a % b + c. Please also understand the precedence of the operators.

**Hint =>**

1. Create variables a, b, c of int data type.
2. Take user input for a, b, and c.
3. Compute 3 integer operations and assign result to a variable
4. Finally print the result and try to understand operator precedence.

**I/P =>** fee, discountPrecent

**O/P =>** The results of Operations are 255,75,25 and 30

**Sol:**

import java.util.\*;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the 1st number: ");

int a = sc.nextInt();

System.out.print("Enter the 2nd number: ");

int b = sc.nextInt();

System.out.print("Enter the 3rd number: ");

int c = sc.nextInt();

int operation1 = a + b \* c;

int operation2 = a \* b + c;

int operation3 = c + a / b;

int operation4 = a % b + c;

System.out.println("The results of Operations are " + operation1 + "," + operation2 + "," + operation3 + " and " + operation4);

}

}

1. Similarly, write the ***DoubleOpt*** program by taking double values and doing the same operations.

The results of Operations are 255.0,75.0,25.5 and 30.0

**Sol:**

import java.util.\*;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the 1st number: ");

double a = sc.nextInt();

System.out.print("Enter the 2nd number: ");

double b = sc.nextInt();

System.out.print("Enter the 3rd number: ");

double c = sc.nextInt();

double operation1 = a + b \* c;

double operation2 = a \* b + c;

double operation3 = c + a / b;

double operation4 = a % b + c;

System.out.println("The results of Operations are " + operation1 + "," + operation2 + "," + operation3 + " and " + operation4);

}

}

1. Write a TemperaturConversion program, given the temperature in Celsius as input outputs the temperature in Fahrenheit

**Hint =>**

1. Create a ***celsius*** variable and take the temperature as user input
2. Use the Formulae Celsius to Fahrenheit:   (°C × 9/5) + 32 = °F and assign to ***farenheitResult***  and print the result

**I/P =>** celcius

**O/P =>**  Your Temperature in celsius is 32.0C and in Fahrenheit 64.0F

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the value of Temperature in Celsius: ");

double celsius = sc.nextInt();

double Fahrenheit = (celsius \* (9/5)) + 32;

System.out.println("Your Temperature in celsius is " + celsius + "C and in Fahrenheit " + Fahrenheit + "F");

sc.close();

}

}

1. Write a TemperaturConversion program, given the temperature in Fahrenheit as input outputs the temperature in Celsius

**Hint =>**

1. Create a ***fahrenheit*** variable and take the user's input
2. User the formulae to convert Fahrenheit to Celsius:   (°F − 32) x 5/9 = °C and assign the result to ***celsiusResult***  and print the result

**I/P =>** fahrenheit

**O/P =>** Your Temperature in Fahrenheit is 32.0F and in Celsius 0.0C

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the value of Temperature in Fahrenheit: ");

double Fahrenheit = sc.nextInt();

double Celsius = ((Fahrenheit - 32) \* (5/9));

System.out.println("Your Temperature in Fahrenheit is " + Fahrenheit + "F and in Celsius " + Celsius + "C");

sc.close();

}

}

1. Create a program to find the total income of a person by taking salary and bonus from user

**Hint =>**

1. Create a variable named salary and take user input.
2. Create another variable bonus and take user input.
3. Compute income by adding salary and bonus and print the result

**I/P =>** salary, bonus

**O/P =>** The salary is INR 400000 and bonus is INR 25000. Hence Total Income is INR 425000

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the Salary: ");

int Salary = sc.nextInt();

System.out.print("Enter the Bonus: ");

int Bonus = sc.nextInt();

int totalIncome = Salary + Bonus;

System.out.println("The salary is INR " + Salary + " and bonus is INR " + Bonus + ". Hence Total Income is INR " + totalIncome);

sc.close();

}

}

1. Create a program to swap two numbers

**Hint =>**

1. Create a variable number1 and take user input.
2. Create a variable number2 and take user input.
3. Swap number1 and number2  and print the swapped output

**I/P =>** number1, number2

**O/P =>** Given numbers are 5 and 8.After swapping the numbers are 8 and 5

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the 1st number: ");

int number1 = sc.nextInt();

System.out.print("Enter the 2nd number: ");

int number2 = sc.nextInt();

int x = number1;

int y = number2;

int temp = y;

y = x;

x = temp;

System.out.println("Given numbers are "+ number1 +" and " + number2 + ".After swapping the numbers are " + x + " and " + y);

sc.close();

}

}

1. Rewrite the Sample Program 2 with user inputs

**Hint =>**

1. Create variables and take user inputs for name, fromCity, viaCity, toCity
2. Create variables and take user inputs for distances fromToVia and viaToFinalCity in Miles
3. Create Variables and take time taken
4. Finally, print the result and try to understand operator precedence.

**I/P =>** fee, discountPrecent

**O/P =>** The Total Distance travelled by Sri Veer from Chennai to Rajahmundry via Vijayawada is 800 km and the Total Time taken is 720 minutes

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter your name: ");

String name = sc.nextLine();

System.out.print("Enter fromCity: ");

String fromCity = sc.nextLine();

System.out.print("Enter toCity: ");

String toCity = sc.nextLine();

System.out.print("Enter viaCity: ");

String viaCity = sc.nextLine();

System.out.print("Enter distance from fromCity to viaCity: ");

int fromToVia = sc.nextInt();

System.out.print("Enter distance from viaCity to toCity: ");

int viaToFinal = sc.nextInt();

System.out.print("Enter time required to travel from fromCity to viaCity(in Hours): ");

int time\_fromToVia = sc.nextInt();

System.out.print("Enter time required to travel from viaCity to toCity(in Hours): ");

int time\_viaToFinal = sc.nextInt();

int totalDistance = fromToVia + viaToFinal;

int totalTime = time\_fromToVia + time\_viaToFinal;

totalTime \*= 60;

System.out.println("The Total Distance travelled by " + name + " from " +

fromCity + " to " + toCity + " via " + viaCity +

" is " + totalDistance + " km and " +

"the Total Time taken is " + totalTime + " minutes");

sc.close();

}

}

1. An athlete runs in a triangular park with sides provided as input by the user in meters. If the athlete wants to complete a 5 km run, then how many rounds must the athlete complete

**Hint =>** The perimeter of a triangle is the addition of all sides and rounds is distance/perimeter

**I/P =>** side1, side2, side3

**O/P =>** The total number of rounds the athlete will run is 833 in meters to complete 5 km

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the 1st side: ");

int side1 = sc.nextInt();

System.out.print("Enter the 2nd side: ");

int side2 = sc.nextInt();

System.out.print("Enter the 3rd side: ");

int side3 = sc.nextInt();

int perimeterInMeters = side1 + side2 + side3;

int rounds = 5000/perimeterInMeters;

System.out.println("The total number of rounds the athlete will run is " + rounds +" in meters to complete 5 km");

sc.close();

}

}

1. Create a program to divide N number of chocolates among M children.

**Hint =>**

1. Get an integer value from user for the numberOfchocolates and numberOfChildren.
2. Find the number of chocolates each child gets and number of remaining chocolates
3. Display the results

**I/P =>** numberOfchocolates, numberOfChildren

**O/P =>** Enter number of Chocolates: 10

Enter number of Childrens: 4

The number of chocolates each child gets is 2 and the number of remaining chocolates are 2

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter number of Chocolates: ");

int numberOfChocolates = sc.nextInt();

System.out.print("Enter number of Childrens: ");

int numberOfChildrens = sc.nextInt();

int chocolatesPerChildren = numberOfChocolates / numberOfChildrens;

int remainingChocolates = numberOfChocolates % numberOfChildrens;

System.out.println("The number of chocolates each child gets is " + chocolatesPerChildren + " and the number of remaining chocolates are " + remainingChocolates);

sc.close();

}

}

1. Write a program to input the Principal, Rate, and Time values and calculate Simple Interest.

**Hint =>** Simple Interest = Principal \* Rate \* Time / 100

**I/P =>** principal, rate, time

**O/P =>** The Simple Interest is 3000.0 for Principal 10000.0, Rate of Interest 15.0 and Time 2.0

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter the Principal: ");

double Principal = sc.nextInt();

System.out.print("Enter the Rate of Interest: ");

double rateOfInterest = sc.nextInt();

System.out.print("Enter the Time(in Years): ");

double timeInYears = sc.nextInt();

double simpleInterest = (Principal \* rateOfInterest \* timeInYears)/100;

System.out.println("The Simple Interest is " + simpleInterest + " for Principal " + Principal + ", Rate of Interest " + rateOfInterest + " and Time " + timeInYears);

sc.close();

}

}

1. Create a program to convert weight in pounds to kilograms.

**Hint =>** 1 pound = 2.2 kg

**I/P =>** weight

**O/P =>** The weight of the person in pound is 31.82 and in kg is 70.0

**Sol:**

import java.util.Scanner;

public class week{

public static void main(String[] args){

Scanner sc = new Scanner(System.in);

System.out.print("Enter your weight in kgs: ");

double weightInKgs = sc.nextInt();

double weightInPounds = weightInKgs / 2.2;

System.out.println("The weight of the person in pound is " + String.format("%.2f", weightInPounds) + " and in kg is " + weightInKgs);

sc.close();

}

}