# Level 3 Practice Programs

1. Write a Temperature Conversion 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

**Input =>** 33

**Output =>** The 33.0 celsius is 91.4 fahrenheit

import java.util.Scanner;

class Main{

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

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

double celsius = input.nextDouble();

double resulfarenheit = celsius\*9.0/5.0+32.0;

System.out.printf(" The "+celsius+" celsius is "+resulfarenheit+" fahrenheit");

input.close();

}

}

1. Write a Temperatur Conversion 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

**Input =>** 99

**Output =>** The 99.0 fahrenheit is 37.22222222222222 celsius

import java.util.Scanner;

class Main{

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

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

double fahrenheit = input.nextDouble();

double celsiusResult = (fahrenheit-32.0)\*5.0/9.0;

System.out.printf(" The "+fahrenheit+" fahrenheit is "+celsiusResult+" celsius");

input.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

**Input =>** salary=125000, bonus=40000

**Output =>** The salary is INR 125000.0 fand bonus is INR 40000.0 Hence Total Income is INR 165000.0

import java.util.Scanner;

class Main {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

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

double salary = input.nextDouble();

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

double bonus = input.nextDouble();

double totalIncome = salary + bonus;

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

input.close();

}

}

1. Create a program to swap two numbers
2. Create a variable number1 and take user input.
3. Create a variable number2 and take user input.
4. Swap number1 and number2 and print the swapped output

**Input =>** number1=23, number2=45

**Output =>** The swapped numbers are 45 and 23

**import java.util.Scanner;**

**class Main{**

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

**Scanner input = new Scanner(System.in);**

**System.out.print("Enter 2 Numbers: ");**

**int number1 = input.nextInt();**

**int number2 = input.nextInt();**

**int temp=number1;**

**number1=number2;**

**number2=temp;**

**System.out.printf(" The swapped numbers are "+number1+" and "+number2);**

**}**

**}**

5.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.

**Input =>** fee, discountPrecent

**Output =>** The results of Int Operations are \_\_\_, \_\_\_, and \_\_\_

6.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

**Input =>** side1=4, side2=9, side3=7

**Output =>** The total number of rounds the athlete will run is 250 to complete 5 km

import java.util.Scanner;

class Main{

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter length of 3 sides in m: ");

int side1 = input.nextInt();

int side2 = input.nextInt();

int side3 = input.nextInt4 ();

int perimeter= side1+side2+side3;

int distance = 5000;

int rounds = distance/perimeter;

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

input.close();

}

}

7.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

**Input =>** numberOfchocolates=45, numberOfChildren=13

**Output =>**The number of chocolates each child gets is 3 and the number of remaining chocolates are 6

import java.util.Scanner;

class Main{

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

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

int numberOfchocolates = input.nextInt();

int numberOfChildren = input.nextInt();

int quotient = numberOfchocolates/numberOfChildren ;

int remainder = numberOfchocolates%numberOfChildren ;

System.out.printf(" The number of chocolates each child gets is "+ quotient+" and the number of remaining chocolates are "+remainder);

input.close();

}

}

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

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

**Input =>** principal=1000, rate=10, time=1

**Output =>** The Simple Interest is 100.0 for Principal 1000.0 Rate of Interest 10.0 and Time 1.0

import java.util.Scanner;

class Main {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter Principal, Rate and Time: ");

double principal = input.nextDouble();

double rate = input.nextDouble();

double time = input.nextDouble();

double simpleInterest = (principal\*rate\*time)/100;

System.out.println("The Simple Interest is " + simpleInterest + " for Principal " + principal + " Rate of Interest " + rate + " and Time " + time);

input.close();

}

}

9.Create a program to find the maximum number of handshakes among N number of students.

**Hint =>**

1. Get integer input for numberOfStudents variable.
2. Use the combination = (n \* (n - 1)) / 2 formula to calculate the maximum number of possible handshakes.
3. Display the number of possible handshakes.

**Input =>** 4

**Output =>** Maximum number of Handshakes among 4 students is 6

import java.util.Scanner;

class Main{

public static void main(String arg[]){

Scanner input = new Scanner(System.in);

System.out.println("Enter number of Students: ");

int numberOfStudents = input.nextInt();

int numHS = numberOfStudents\*(numberOfStudents-1)/2;

System.out.println("Maximum number of handshakes among " + numberOfStudents + " students is " + numHS);

}

}

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

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

**Input =>** weight =3.6

**Output =>** The weight of the person in pound is 3.6 and in kg is 1.6363635

import java.util.Scanner;

class Main{

public static void main(String arg[]){

Scanner input = new Scanner(System.in);

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

float weight = input.nextFloat();

float weightkg = weight/2.2f;

System.out.println("The weight of the person in pound is "+weight+" and in kg is "+weightkg);

input.close();

}

}