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Level 3 Practice Programs

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

   Hint =>

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

   I/P => celcius

   O/P => The ____ celsius is _____ fahrenheit

```java
import java.util.*;

public class Temperature {

    public static void main (String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter the temp in celsius");

        double tinc = sc.nextDouble();

        double tinf = (tinc * 9/5) + 32 ;

        System.out.println("Temp in f : "+ tinf);

    }

}
```

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

Hint =>

c. Create a ***fahrenheit*** variable and take the user's input
d. 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 => The ____ fahrenheit is _____ celsius

```
import java.util.*;

public class Temp1 {

    public static void main (String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter the temp in celsius");

        double tinf = sc.nextDouble();

        double tinc = (tinf - 32) * 5/9 ;

        System.out.println("Temp in c : "+ tinc);

        Scanner sc = new Scanner(System.in);




    }

}
```

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

Hint =>

a. Create a variable named salary and take user input.
b. Create another variable bonus and take user input.
c. Compute income by adding salary and bonus and print the result

I/P => salary, bonus

O/P => The salary is INR ___ and bonus is INR ___. Hence Total Income is

INR ___

```
import java.util.*;

public class Income {

    public static void main (String[] args ){

        System.out.println("Enter the salary amount ");

        Scanner sc = new Scanner(System.in);

        int salary = sc.nextInt();

        System.out.println("Enter the Bonus amount ");

        int bonus = sc.nextInt();

        int income = salary+bonus;

        System.out.println("The salary is INR " +salary+ "
and bonus is INR "+bonus+

        " Hence Total Income is INR "+income);



    }

}
```

4. Create a program to swap two numbers

Hint =>

a. Create a variable number1 and take user input.
b. Create a variable number2 and take user input.
c. Swap number1 and number2 and print the swapped output

I/P => number1, number2
O/P => The swapped numbers are ___ and ___

```
import java.util.*;

public class Swap {
```

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

        System.out.println("Enter the num1 ");

        Scanner sc = new Scanner(System.in);

        int num1 = sc.nextInt();

        System.out.println("Enter the num2 ");

        int num2 = sc.nextInt();

        int temp;

        temp=num1;

        num1=num2;

        num2=temp;

        System.out.println("The Value of num1 is " +num1+
" and value of num2 is "+num2);


    }
}
```

5. Rewrite the Sample Program 2 with user inputs

Hint =>

a. Create variables and take user inputs for name, fromCity, viaCity, toCity
b. Create variables and take user inputs for distances fromToVia and viaToFinalCity in Miles
c. Create Variables and take time taken
d. Finally, print the result and try to understand operator precedence.

I/P => fee, discountPrecent
O/P => The results of Int Operations are ___, ___, and ___

```
// Create TravelComputation Class to compute the Distance and Travel Time
import java.util.*;
public class Distance {


   public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);


      // Create a variable name to indicate the person traveling
      String name = sc.nextLine();


      // Create a variable fromCity, viaCity and toCity to indicate the city
      // from city, via city and to city the person is travelling
      String fromCity = "Chennai", viaCity = "Velore", toCity = "Bangalore";
```

```
      // Create a variable distanceFromToVia to indicate
the distance
      // between the fromCity to viaCity

      double distanceFromToVia = sc.nextDouble();



      // Create a variable timeFromToVia to indicate the
time taken to
      // travel from fromCity to viaCity in minutes
      int timeFromToVia = sc.nextInt();

      // Create a variable distanceViaToFinalCity to
indicate the distance
      // between the viaCity to toCity
      double distanceViaToFinalCity = sc.nextDouble();

      // Create a variable timeViaToFinalCity to indicate
the time taken to
      // travel from viaCity to toCity in minutes
      int timeViaToFinalCity = sc.nextInt();

      // Create a variable totalDistance to indicate the
total distance
```

```
        // between the fromCity to toCity
        double totalDistance = distanceFromToVia +
distanceViaToFinalCity;


        // Create a variable totalTime to indicate the total
time taken to
        // travel from fromCity to toCity in minutes
        int totalTime = timeFromToVia + timeViaToFinalCity;



        // Print the travel details
        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");
    }
}
```

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

I/P => side1, side2, side3

O/P => The total number of rounds the athlete will run is ___ to complete 5 km

```
import java.util.*;
```

```
public class Triangle {

    public static void main (String[] args ){

        System.out.println("Enter the  details of Triangle
");

        System.out.println("Enter the  details of  side1
");

        Scanner sc = new Scanner(System.in);

        int side1 = sc.nextInt();

        System.out.println("Enter the details of side2 ");

        int side2 = sc.nextInt();

        System.out.println("Enter the details of side3 ");

        int side3 = sc.nextInt();

        int perimeter = side1+side2+side3;

        int round = perimeter/5;

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




    }

}
```

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

Hint =>

a. Get an integer value from user for the numberOfchocolates and numberOfChildren.
b. Find the number of chocolates each child gets and number of remaining chocolates
c. Display the results

I/P => numberOfchocolates, numberOfChildren

O/P => The number of chocolates each child gets is ___ and the number of remaining chocolates are ___

```
import java.util.*;

public class Chocolate {

    public static void main (String[] args ){

        System.out.println("Enter the no. of chocolate ");

        Scanner sc = new Scanner(System.in);

        int noofchocolate = sc.nextInt();

        System.out.println("Enter the no. of children ");

        int noofchildren = sc.nextInt();

        int chocolateperchild =
noofchocolate/noofchildren;

        int remaingchocolate = noofchocolate%noofchildren;

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


    }

}
```

8. 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 ___ for Principal ___, Rate of Interest ___ and Time ___

```
import java.util.*;
```

```
public class Simpleintrest {

    public static void main (String[] args ){

        System.out.println("Enter the detail for simple
intrest ");

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter the principle value ");

        double principle = sc.nextDouble();

        System.out.println("Enter the rate value ");

        double rate = sc.nextDouble();

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

        double time = sc.nextDouble();

        double s_i = (principle*rate*time)/100;

        System.out.println("Simple Intrest is : "+s_i);









    }

}
```

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

   Hint =>

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

```
d. import java.util.*;
e. public class Handshakes {
f.     public static void main (String[] args ){
g.          System.out.println("Enter the no. of person ");
h.          Scanner sc = new Scanner(System.in);
i.         int n = sc.nextInt();
j.         int noofhandshakes =  (n * (n - 1)) / 2;
k.          System.out.println(" the total no. of hand
   shakes are " + noofhandshakes);
l.
m.      }
n. }
```

   o.

10. 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 ___ and in kg is ___

```
import java.util.*;

public class Weightconversion {

    public static void main (String[] args ){

        System.out.println("Enter the weight in pounds ");
```

```
        Scanner sc = new Scanner(System.in);
        double inpo = sc.nextDouble();
        double inkg=inpo/2.2;
        // System.out.println("The weight in kg is " +
inkg);
        System.out.printf("The weight in kg is %.2f
",inkg);


    }
}
```