WEEK 3 PRACTICE SOLUTIONS

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

Solution:

```
import java.util.Scanner;
public class tempconverter{
	public static void main(String[] args){
		Scanner scanner = new Scanner(System.in);
		System.out.print("Enter the temperature in celsius:");//Taking input from the user
		double celsius = scanner.nextDouble();
		double Farenheitresult = celsius*1.8 + 32;//converting celsius to Farenheit
		System.out.println("The temperature in Farenheit is =
"+Farenheitresult+"F");//printing the result
		scanner.close();
	}
}
```

Output:

```
Enter the temperature in celsius:100
The temperature in Fahrenheit is = 212.0F
```

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

Solution:

```
import java.util.Scanner;
public class Tempconverter2{
	public static void main(String[] args){
		Scanner scanner= new Scanner(System.in);
		System.out.print("Enter the temperature in Fahrenheit:");
```

```
                double fahrenheit=scanner.nextDouble();
                double celcius = fahrenheit-32;
                celcius=celcius*0.6;
                System.out.println("The celcius is ="+celcius+"C");
                scanner.close();
        }
}
```

Output:

```
Enter the temperature in Fahrenheit:273
The celcius is =144.6C
```

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

Solution:

```
import java.util.Scanner;
public class Salary{
        public static void main(String [] args){
                Scanner scanner= new Scanner(System.in);
                System.out.print("Enter the Salary:");
                double salary= scanner.nextDouble();
                System.out.print("Enter the Bonus");
                double bonus= scanner.nextDouble();
                double totalsalary = salary + bonus;
                System.out.println("Your salary = "+salary+"and you
bonus="+bonus+",hence your totalsalary = "+totalsalary);
                scanner.close();
        }
}
```

Output:

```
Enter the Salary:300000
Enter the Bonus50000
Your salary = 300000.0and you bonus=50000.0,hence your totalsalary = 350000.0
```

4. Create a program to swap two numbers

Solution:

```
import java.util.Scanner;
public class Swapnumbers{
	public static void main (String[] args){
		Scanner scanner = new Scanner(System.in);
		System.out.print("Enter first number =");
		double number1 = scanner.nextDouble();
		System.out.print("Enter second number =");
		double number2 = scanner.nextDouble();
		double number3 = number1;
		number1 = number2;
		number2 = number3;
		System.out.println("the swaped number now is , first number ="+number1+" and second number ="+number2);
		scanner.close();
	}
}
```

Output:

```
Enter first number =56
Enter second number =65
the swaped number now is , first number =65.0 and second number =56.0
```

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5. Rewrite the Sample Program 2 with user inputs

Solution:

```
import java.util.Scanner;
public class TravelComputation{
	public static void main(String [] args){
		Scanner sc = new Scanner(System.in);
		System.out.print("Enter your name:");
		String name = sc.next();
```

```
                System.out.print("Enter from city:");
                String fromcity = sc.next();
                System.out.print("Enter Via city :");
                String viacity = sc.next();
                System.out.print("Enter the distance to travel fromcity to viacity and also enter
time taken=");
                double distance1 = sc.nextDouble();
                double time1 = sc.nextDouble();
                System.out.print("Enter Final city :");
                String finalcity = sc.next();
                System.out.print("Enter the distance to travel Viacity to Finalcity and also enter
time taken=");
                double distance2 = sc.nextDouble();
                double time2 = sc.nextDouble();
                double totaltime = time1+time2;
                double totaldistance = distance1+distance2;
                System.out.println("The Total Distance travelled by " + name + " from " +
                 fromcity + " to " + finalcity + " via " + viacity +
                 " is " + totaldistance + " km and " +
                 "the Total Time taken is " + totaltime + " minutes");
                sc.close();
        }
}
```

Output:

Enter your name:Sara

Enter from city:Chandigarh

Enter Via city :Delhi

Enter the distance to travel fromcity to viacity and also enter time taken=120 40

Enter Final city :Haryana

Enter the distance to travel Viacity to Finalcity and also enter time taken=140 50

The Total Distance travelled by Sara from Chandigarh to Haryana via Delhi is 260.0 km and the Total Time taken is 90.0 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

Solution:

```
import java.util.Scanner;
public class TriangularPark{
	public static void main( String [] args){
		Scanner sc = new Scanner(System.in);
		System.out.print("Enter all the sides of the Trinagular park:");
		int side1= sc.nextInt();
		int side2= sc.nextInt();
		int side3= sc.nextInt();
		int triangle= side1+side2+side3;
		int atheletrun= triangle/5;
		System.out.println("Number of line the athelet needs to run =
"+atheletrun+"rounds in total");
		sc.close();
	}
}
```

Output:

```
Enter all the sides of the Trinagular park:9 8 7
Number of line the athelet needs to run = 4rounds in total
```

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

Solution:

```
import java.util.Scanner;
public class Chocolate{
	public static void main(String[] args){
		Scanner sc = new Scanner(System.in);
		System.out.print("Enter the number of chocolates =");
		double chocolate = sc.nextDouble();
		System.out.print("Enter the number of children =");
```

```
                double children = sc.nextDouble();
                double divide = chocolate/children;
                System.out.println("The number of chocolates each child will get ="+divide);
                sc.close();
        }
}
```

Output:

```
Enter the number of chocolates =30
Enter the number of children =25
The number of chocolates each child will get =1.2
```

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

Solution:

```
import java.util.Scanner;
public class SimpleIntrest{
        public static void main(String[] args){
                Scanner sc = new Scanner(System.in);
                System.out.print("Enter the Principal amount =");//Taking Principal input
                double Principal = sc.nextDouble();
                System.out.print("Enter the Rate =");//Taking rate input
                double Rate = sc.nextDouble();
                System.out.print("Enter the Time =");//Taking time input
                double Time = sc.nextDouble();
                double SimpleIntrest = Principal*Rate*Time;//calculating the Simple Intrest
                SimpleIntrest = SimpleIntrest/100;
                System.out.println("The Simple Intrest amount is ="+SimpleIntrest);//Printing the
Output
                sc.close();
        }
}
```

Output:

Enter the Principal amount =24000

Enter the Rate =20

Enter the Time =3

The Simple Intrest amount is =14400.0

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

Solution;

```
import java.util.Scanner;
public class Handshakes{
	public static void main(String [] args){
		Scanner sc = new Scanner(System.in);
		System.out.print("Enter the number of students =");//Taking input for number of students
		int students = sc.nextInt();
		int handshake= students*(students-1);//Using formula to calculate number of handshakes
		handshake = handshake/2;
		System.out.println("The number of handshakes done by students ="+handshake);//Printing the output
		sc.close();
	}
}
```

Output:

Enter the number of students =45

The number of handshakes done by students =990

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

Solution:

```
import java.util.Scanner;
public class WeightConverter{
```

```
	public static void main(String[] args){
		Scanner sc = new Scanner (System.in);
		System.out.print("Enter the the weight in pounds =");
		double weight = sc.nextDouble();
		double weight2=weight*2.2;
		System.out.println("The weight in pounds ="+weight+"pounds ,now weight in kilograms"+weight2+"Kg");
		sc.close();
	}
}
```

Output:

```
Enter the the weight in pounds =15
The weight in pounds =15.0pounds ,now weight in kilograms33.0Kg
```