Ex No. 2	CONVERTER APP
Date: 12/07/2019	

Aim:

* To develop a Java application for the conversion of Currency, Distance and Time.

Requirements:

* Develop a Java application to convert the currencies such as Dollar to INR and vice versa, EURO to INR and vice versa, Yen to INR and vice versa, the distance such as Meter to KM and vice versa, Miler to KM and vice versa, the time such as Hours to Minutes and vice versa, Hours to Seconds and vice versa.

* Create a package Converter Library and create the classes CurrencyConverter, DistanceCoverter and Time Converter.

* Create a package Converter App and create the class Calculation with main function and create object of Converter App and display the conversion()function.

Algorithm:

Step 1: Declare a package Converter Library.

Step 2: Declare the classes CurrencyConverter, DistanceCoverter and Time Converter.

Step 3: Declare a constructor with initial attributes.

Step 4: Declare a package Converter App.

Step 5: Declare a class Calculation with static man functions.

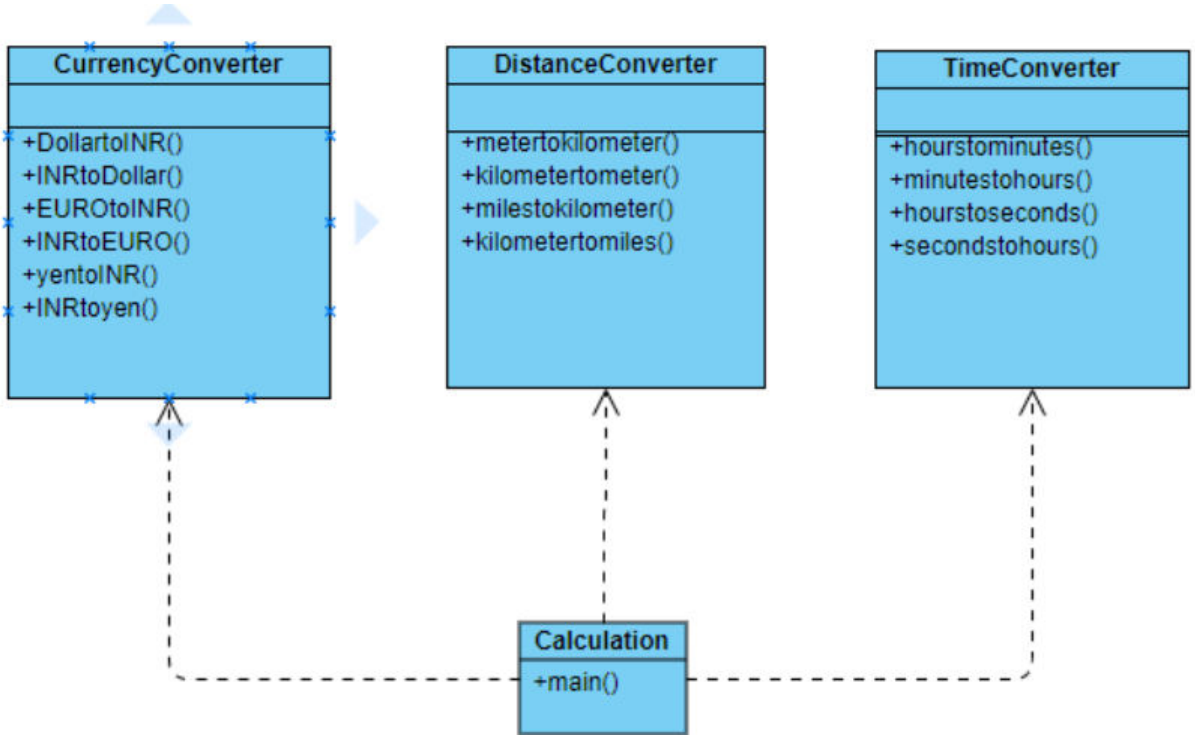
Step 6: Create objects with Dollar, INR, EURO, Yen, Hours, Minutes, Seconds, Meter, Miles, KM.

Step 7: Get the input from the user.

Step 8: Calculate the constructors.

Step 9: Display the result.

Class Diagram:



Program:

```
/**** Develped by D. Sarathi Raj
*212217105054
*Saveetha Engineering College
*sarathiraj852000@gmail.com
*/

package converterlibrary;
      public class CurrencyConverter {

            public static double dollarToINR(double dollar)
            {
                  double INR;

                        INR=dollar*68.56;
                  return INR;
            }
```

```
	public static double INRTodollar(double INR)
	{
		double dollar;

			dollar=INR/68.56;
		return dollar;
	}

	public static double EUROToINR(double EURO)
	{
		double INR;

			INR=EURO*77.39;
		return INR;
	}
	public static double INRToEURO(double INR)
	{
		double EURO;

			EURO=INR/77.39;
		return EURO;
	}
	public static double YenToINR(double Yen)
	{
		double INR;

			INR=Yen*0.62;
		return INR;
	}
	public static double INRToYen(double INR)
	{
		double Yen;

			Yen=INR/0.62;
		return Yen;

	}
}
package converterlibrary;

public class DistanceConverter {


		public static double meterToKM(double meter)
		{
			double KM;

				KM=meter*1000.0;
			return KM;
		}
```

```
                public static double KMTometer(double KM)
                {
                      double meter;

                            meter=KM/1000.0;
                      return meter;
                }

                public static double milesToKM(double miles)
                {
                      double KM;

                            KM=miles*1.609;
                      return KM;
                }
                public static double KMTomiles(double KM)
                {
                      double miles;

                            miles=KM/1.609;
                      return miles;
                }
}
package converterlibrary;
      public class TimeConverter {

                public static double hoursToMinutes(double hours)
                {
                      double Minutes;

                            Minutes=hours/60.0;
                      return Minutes;
                }

                public static double MinutesTohours(double Minutes)
                {
                      double hours;

                            hours=Minutes/60.0;
                      return hours;
                }

                public static double hoursToSeconds(double hours)
                {
                      double Seconds;

                            Seconds=hours*3600.0;
                      return Seconds;
                }
                public static double SecondsTohours(double Seconds)
                {
                      double hours;
```

```
                        hours=Seconds/3600.0;
                    return hours;
                }
}
package converterapp;


      import java.util.Scanner;
      import converterlibrary.*;

      public class Calculation {

            public static void main(String[] args) {
            double value1,value2;
            int option;
             Scanner sc=new Scanner(System.in);

            while(true)
                  {
                        System.out.println("1. dollar to INR");
                        System.out.println("2. INR to dollar");
                        System.out.println("3. EURO to INR");
                        System.out.println("4. INR to EURO");
                        System.out.println("5. Yen to INR ");
                        System.out.println("6. INR to Yen");
                        System.out.println("7. meter to KM");
                        System.out.println("8. KM to meter");
                        System.out.println("9. miles to KM");
                        System.out.println("10. KM to miles");
                        System.out.println("11. hours to Minutes");
                        System.out.println("12. Minutes to hours");
                        System.out.println("13. hours to Seconds");
                        System.out.println("14. Seconds to hours");
                        System.out.println("15. Exit");
                        System.out.print("Enter the choice");


                        option=sc.nextInt();
                        switch(option)
                        {
                        case 1:
                              System.out.print("Enter money in dollar:");
                              value1=sc.nextDouble();
                              value2=CurrencyConverter.dollarToINR(value1);
                              System.out.printf("%.2f dollar is equal to
%.2f INR.\n", value1,value2);
                              break;
                        case 2:
                              System.out.print("Enter money in INR:");
                              value1=sc.nextDouble();
                              value2=CurrencyConverter.INRTodollar(value1);
```

```
                              System.out.printf("%.2f INR is equal to %.2f
dollar.\n", value1,value2);
                              break;
                        case 3:
                              System.out.print("Enter money in EURO:");
                              value1=sc.nextDouble();
                              value2=CurrencyConverter.EUROToINR(value1);
                              System.out.printf("%.2f EURO is equal to %.2f
INR.\n", value1,value2);
                              break;
                        case 4:
                              System.out.print("Enter money in INR:");
                              value1=sc.nextDouble();
                              value2=CurrencyConverter.INRToEURO(value1);
                              System.out.printf("%.2f INR is equal to %.2f
EURO.\n", value1,value2);
                              break;
                        case 5:
                              System.out.print("Enter money in Yen:");
                              value1=sc.nextDouble();
                              value2=CurrencyConverter.YenToINR(value1);
                              System.out.printf("%.2f Yen is equal to %.2f
INR.\n", value1,value2);
                              break;
                        case 6:
                              System.out.print("Enter money in INR:");
                              value1=sc.nextDouble();
                              value2=CurrencyConverter.INRToYen(value1);
                              System.out.printf("%.2f INR is equal to %.2f
Yen.\n", value1,value2);
                              break;
                        case 7:
                              System.out.print("Enter distance in meter:");
                              value1=sc.nextDouble();
                              value2=DistanceConverter.meterToKM(value1);
                              System.out.printf("%.2f meter is equal to
%.2f KM.\n", value1,value2);
                              break;
                        case 8:
                              System.out.print("Enter distance in KM:");
                              value1=sc.nextDouble();
                              value2=DistanceConverter.KMTometer(value1);
                              System.out.printf("%.2f KM is equal to %.2f
meter.\n", value1,value2);
                              break;
                        case 9:
                              System.out.print("Enter distance in miles:");
                              value1=sc.nextDouble();
                              value2=DistanceConverter.milesToKM(value1);
                              System.out.printf("%.2f miles is equal to
%.2f KM.\n", value1,value2);
                              break;
                        case 10:
                              System.out.print("Enter distance in KM:");
```

```
                              value1=sc.nextDouble();
                              value2=DistanceConverter.KMTomiles(value1);
                              System.out.printf("%.2f KM is equal to %.2f
miles.\n", value1,value2);
                              break;
                        case 11:
                              System.out.print("Enter time in hours:");
                              value1=sc.nextDouble();
                              value2=TimeConverter.hoursToMinutes(value1);
                              System.out.printf("%.2f hours is equal to
%.2f Minutes.\n", value1,value2);
                              break;
                        case 12:
                              System.out.print("Enter time in Minutes:");
                              value1=sc.nextDouble();
                              value2=TimeConverter.MinutesTohours(value1);
                              System.out.printf("%.2f Minutes is equal to
%.2f hours.\n", value1,value2);
                              break;
                        case 13:
                              System.out.print("Enter time in hours:");
                              value1=sc.nextDouble();
                              value2=TimeConverter.hoursToSeconds(value1);
                              System.out.printf("%.2f hours is equal to
%.2f Seconds.\n", value1,value2);
                              break;
                        case 14:
                              System.out.print("Enter time in Seconds:");
                              value1=sc.nextDouble();
                              value2=TimeConverter.SecondsTohours(value1);
                              System.out.printf("%.2f Seconds is equal to
%.2f hours.\n", value1,value2);
                              break;
                        case 15:
                              System.out.println("Thank you for using
Converter Application!!!");
                              break;

                        default:
                              System.out.print("Please enter a valid
number");
                        }
                        if (option==15)
                        {
                        break;
                        }
                  }
            }
}
```

Output:

```
1. dollar to INR
2. INR to dollar
3. EURO to INR
4. INR to EURO
5. Yen to INR
6. INR to Yen
7. meter to km
8. km to meter
9. miles to km
10. km to miles
11. hours to Minutes
12. Minutes to hours
13. hours to Seconds
14. Seconds to hours
15. Exit
Enter your choice:11
Enter time in mins:60
1.00 hour is equal to 60.00 Minutes
1. dollar to INR
2. INR to dollar
3. Euro to INR
4. INR to Euro
5. Yen to INR
6. INR to yen
7. meter to KM
8. KM to meter
9. miles to KM
10. KM to miles
11. hours to Minutes
12. minutes to hours
13. hours to Seconds
14. Seconds to hours
15. Exit
Enter your choice:12
Enter time in mins:3600
60.00 Minutes is equal to 1.00 hours.
1. dollar to INR
2. INR to dollar
3. Euro to I8NR
4. INR to Euro
5. Yen to INR
6. INR to Yen
7. meter to KM
8. KM to meter
9. miles to KM
10. KM to miles
11. hours to Minutes
12. Minutes to hours
13. hours to Seconds
14. Seconds to hours
15. Exit
Enter your choice:
```

Result:

* Thus, the java application for conversion was done by using converter app is implemented successfully.