Exp.no:	Java Application to implement converters
Date:	

Aim:

To develop a java application to implement currency converter,distance converter and time converter using packages.

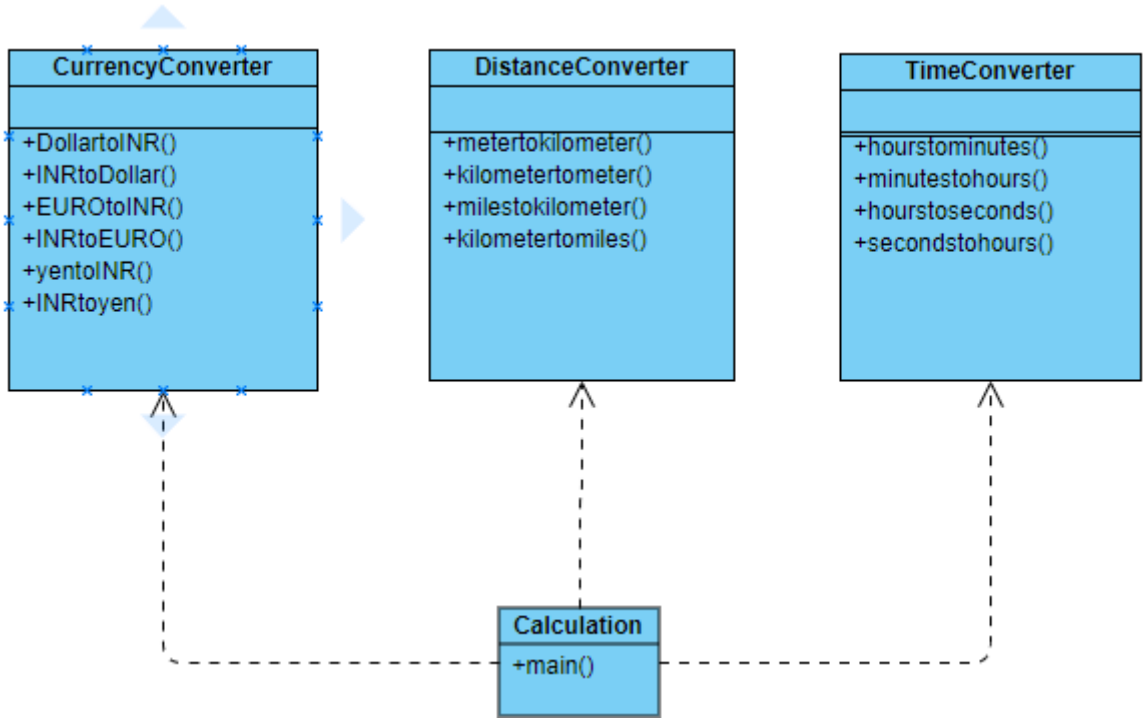
Requirement:

- Develop a java application to implement currency converter using packages.
- Create a package converter library.
- Create a class currency converter and define methods for dollars to inr,Euro to Inr,Yen to Inr ,and vice versa.
- Create a class distance converter and define methods for meter to km,miles to km and vice versa.
- Create a class time converter and define methods for minutes to hours,hours to seconds and vice versa.
- Create a package converter app.
- Create a class calculation use the conversion functions and display results.

Algorithm:

Step1:create a package as converter library and converter app.
Step2:Declare class as currency converter,distance converter,and time converter.
Step3:Declare all data members and functions.
Step4:create the package as converter app and input all the conversion calculation.
Step5:Get the input from user.
Step6:Calculate the corresponding conversion.
Step7:Display the result.

Class Diagram:



Program:

```
/***
 * created by G.Nikhil
 * EEE A
 */


package converterlibrary;

public class CurrencyConverter {
	public static double dollarToINR(double dollar)
	{
		double INR;
		INR=68.52*dollar;
		return INR;
	}
	public static double INRTodollar(double INR)
	{
		double dollar;
		dollar=(INR/68.520)+(INR%68.52);
		return dollar;

	}
	public static double euroToINR(double euro)
	{
		double INR;
		INR=77.18*euro;
		return INR;

	}
	public static double INRToeuro(double INR)
	{
		double euro;
		euro=(INR/77.16)+(INR%77.16);
		return euro;

	}
	public static double yenToINR(double yen)
	{
		double INR;
		INR=0.63*yen;
		return INR;
	}
	public static double INRToyen(double INR)
	{
		double yen;
		yen=(INR/0.63)+(INR%0.63);
	   return yen;
	}

}
```

```
/****
 * created by G.Nikhil
 * EEE A
 */


package converterlibrary;

public class DistanceConverter {
	public static double MeterToKM(double Meter)
	{
		double KM;
		KM=(Meter/1000)+(Meter%1000);
		return KM;
	}
	public static double KMToMeter(double KM)
	{
	double Meter;
	Meter=KM*1000;
	return Meter;

	}
	public static double MilesToKM(double Miles)
	{
		double KM;
		KM=1.6090*Miles;
		return KM;
	}
	public static double KMToMiles(double KM)
	{
		double Miles;
		Miles=(KM/1.609)+(KM%1.609);
		return Miles;

	}


}

/***
 * created by G.Nikhil
 * EEE A
 */



package converterlibrary;

public class TimeConverter{
	public static double hoursTominutes(double hours)
	{
```

```
                double minutes;
                minutes=60*hours;
                return minutes;
        }
        public static double minutesTohours(double minutes)
        {
        double hours;
        hours=(minutes/60)+(minutes%60);
        return hours;
        }
        public static double hoursToseconds(double hours)
        {
                double seconds;
                seconds=3600*hours;
                return seconds;
        }
        public static double secondsTohours(double seconds)
        {
                double hours;
                hours=(seconds/3600)+(seconds%3600);
                return hours;

        }

}
```

Calculation:

```
/***
 * created by G.Nikhil
 * EEE A
 */



package converterapp;
import java.util.Scanner;
import converterlibrary.*;
public class Calculation1 {
        public static void main(String[]arg){
                double a,b;
                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 nmiles");
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("exit");
System.out.print("enter your choice");
option=sc.nextInt();
switch(option)
{       case 1:
                System.out.print("Enter Dollars:");
                a=sc.nextDouble();
                b=CurrencyConverter.dollarToINR(a);
                System.out.printf("%.2f$=%.2fRs \n" , a,b);
                break;
        case 2:
                System.out.print("Enter INR: ");
                a=sc.nextDouble();
                b=CurrencyConverter.INRTodollar(a);
                System.out.printf("%.2fRs=%.2f$ \n" , a,b);
                break;
        case 3:
                System.out.print("Enter Euro: ");
                a=sc.nextDouble();
                b=CurrencyConverter.euroToINR(a);
                System.out.printf("%.2f euros=%.2fRs \n" , a,b);
                break;
        case 4:
                System.out.print("Enter INR: ");
                a=sc.nextDouble();
                b=CurrencyConverter.INRToeuro(a);
                System.out.printf("%.2fRs=%.2f euros \n" , a,b);
                break;
        case 5:
                System.out.print("Enter Yen: ");
                a=sc.nextDouble();
                b=CurrencyConverter.yenToINR(a);
                System.out.printf("%.2fyen=%.2fRs \n" , a,b);
                break;
        case 6:
                System.out.print("Enter INR: ");
                a=sc.nextDouble();
                b=CurrencyConverter.INRToyen(a);
                System.out.printf("%.2fRs=%.2fyen \n" , a,b);
                break;
        case 7:
```

```
                System.out.print("Enter Meters: ");
                a=sc.nextDouble();
                b=DistanceConverter.MeterToKM(a);
                System.out.printf("%.2fm=%.2f kms \n" , a,b);
                break;
            case 8:
                System.out.print("Enter KM: ");
                a=sc.nextDouble();
                b=DistanceConverter.KMToMeter(a);
                System.out.printf("%.2fkms=%.2fm \n" , a,b);
                break;
            case 9:
                System.out.print("Enter MILES: ");
                a=sc.nextDouble();
                b=DistanceConverter.MilesToKM(a);
                System.out.printf("%.2fmiles=%.2fkms \n" , a,b);
                break;
            case 10:
                System.out.print("Enter KM: ");
                a=sc.nextDouble();
                b=DistanceConverter.KMToMiles(a);
                System.out.printf("%.2fkms=%.2fmiles \n" , a,b);
                break;
            case 11:
                System.out.print("Enter Hours: ");
                a=sc.nextDouble();
                b=TimeConverter.hoursTominutes(a);
                System.out.printf("%.2fhes=%.2fmins \n" , a,b);
                break;
            case 12:
                System.out.print("Enter Minutes: ");
                a=sc.nextDouble();
                b=TimeConverter.minutesTohours(a);
                System.out.printf("%.2fmins=%.2fhrs \n" , a,b);
                break;
            case 13:
                System.out.print("Enter Hours: ");
                a=sc.nextDouble();
                b=TimeConverter.hoursToseconds(a);
                System.out.printf("%.2fhrs=%.2fsecs \n" , a,b);
                break;
            case 14:
                System.out.print("Enter Seconds: ");
                a=sc.nextDouble();
                b=TimeConverter.secondsTohours(a);
                System.out.printf("%.2fsecs=%.2fhrs \n" , a,b);
                break;
            case 15:
                break;
            default:
                System.out.println("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 nmiles
11.hours to minutes
12.minutes to hours
13.hours to seconds
14.seconds to hours
exit
enter your choice1
Enter Dollars:85
85.00$=5824.20Rs
enter your choice2
Enter INR: 85
85.00Rs=17.72$
enter your choice12
Enter Minutes: 8542
8542.00mins=164.37hrs
```

Result:

Thus the java application for implementing converters is executed successfully.