Exno:2
Date:12-07-2019

CURRENCY CONVERTER

AIM:

To develop a Java application to generate converter from dollar to INR,EURO to INRand yen to INRand viceversa.

Algorithm:

1) Declare a package converterlibrary.
2) Declare class name currenvyconverter,Distanceconverter,timeconverter.
3) Declare constructors with initial attribute.
4) get the inputs from the user.
5) calculate the conversion
6) Display the results.

Requirement:

Develop a java application to implement currency converter (Dollar to INR, EURO to INR, Yen to INR and vice versa), distance converter (meter to KM, miles to KM and vice versa) , time converter (hours to minutes, seconds and vice versa) using packages.
Create a package converterlibrary

-> Create a class CurrencyConverter and define methods for dollarToINR, eUROToINR, yenToINR and vice versa.

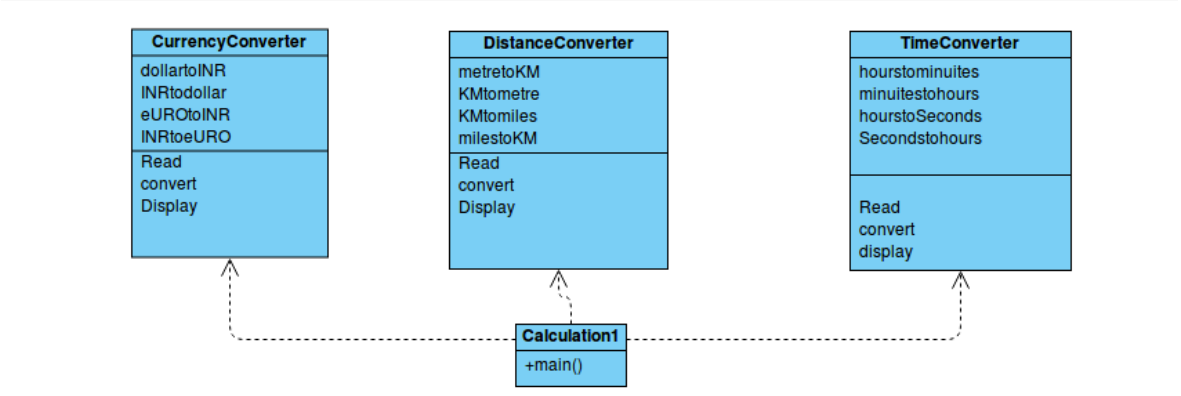
-> Create a class DistanceConverter and define methods for meterToKM, milesToKM and vice versa

-> Create a class TimeConverter and define methods hoursToMinutes, hoursToSeconds and vice versa

Create a package converterapp

-> Create a class Calculation1 use the conversion functions
and display the results.

CLASS DIAGRAM:



PROGRAM:

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CurrencyCoverter.java

```
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;

	}



}
```

DistanceConverter.java

```
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;

	}

}
```

TimeConverter.java

```
package converterlibrary;

public class TimeConverter {
	public static double hourstominuites(double hours)
	{
		double minuites;
			minuites=hours*60.0;
		return minuites;
	}
	public static double minuitestohours(double minuites)
	{
		double hours;
			hours=minuites/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;
	}

}
```

Calculation1.java

```
package converterapp;

import java.util.Scanner;

import converterlibrary.*;

public class calculation1 {
	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 conversion");
		System.out.println("2.INR to dollar conversion");
		System.out.println("3.eURO to INR conversion");
		System.out.println("4.INR to eURO conversion");
		System.out.println("5.yen to INR conversion");
		System.out.println("6.INR to yen conversion");
		System.out.println("7.meter yo KM conversion");
		System.out.println("8.KM to meter conversion");
		System.out.println("9.miles to KM conversion");
		System.out.println("10.KM to miles conversion");
		System.out.println("11.hours to minuites conversion");
		System.out.println("12.minuites to hours conversion");
		System.out.println("13.hours to Seconds conversion");
		System.out.println("14.Seconds to hours conversion");
		System.out.println("15.Exit");
		System.out.println("Enter your choice");
		option=sc.nextInt();
		switch (option)
		{
		case 1:
			System.out.print("Enter currency 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 currency 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 currency 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 currency 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 currency 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 currency 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.hourstominuites(value1);
            System.out.printf("%.2f hours is equal to %.2f minuites ./n",value1,value2);
            break;
    case 12:
            System.out.print("Enter time in minuites");
            value1=sc.nextDouble();
            value2=TimeConverter.minuitestohours(value1);
            System.out.printf("%.2f minuites 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.print("Thankyou for using converter application!!");
                    break;
                default:
                    System.out.print("Please enter a valid number !!!");
                }
                if(option==15)
                {
                    break;
                }

        }
        }

}
```

OUTPUT:

```
1.dollar to INR conversion
2.INR to dollar conversion
3.eURO to INR conversion
4.INR to eURO conversion
5.yen to INR conversion
6.INR to yen conversion
7.meter yo KM conversion
8.KM to meter conversion
9.miles to KM conversion
10.KM to miles conversion
11.hours to minuites conversion
12.minuites to hours conversion
13.hours to Seconds conversion
14.Seconds to hours conversion
15.Exit
Enter your choice
4
Enter currency in INR100
100.00 INR is equal to 1.29 eURO
1.dollar to INR conversion
2.INR to dollar conversion
3.eURO to INR conversion
4.INR to eURO conversion
5.yen to INR conversion
6.INR to yen conversion
7.meter yo KM conversion
8.KM to meter conversion
```

```
9.miles to KM conversion
10.KM to miles conversion
11.hours to minuites conversion
12.minuites to hours conversion
13.hours to Seconds conversion
14.Seconds to hours conversion
15.Exit
Enter your choice
```

RESULT:

Thus the converter application for currency,Distance and Time conversion is created by java program.