EXPT:2   # CURRENCY,DISTANCE,TIME CONVERTER

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AIM:
To develop a java application to implement currency,distance,time conversion.

REQUIREMENTS:
- To implement currency conversion[dollar-inr,euro-inr,yen-inr and vice versa]by creating a class currencyconverter and to define methods for the required conversions.

- To implement distance conversion [meter-kilometer,miles-kilometer and vice versa] by creating a class distanceconverter and to define methods for the required conversion.

- To implement time conversion [hours to minutes,seconds and vice versa] by creating a class timeconverter and to define methods for the required conversions.

- To create a package called Converterapp,and create a class named calculation1 which uses various conversion functions and displays the result base on user's requirement.

ALGORITHM:
STEP 1: To create a package converterapp.
STEP 2: It must contain the following classes Calculation and ConversionLibrary(currency,distance,time)
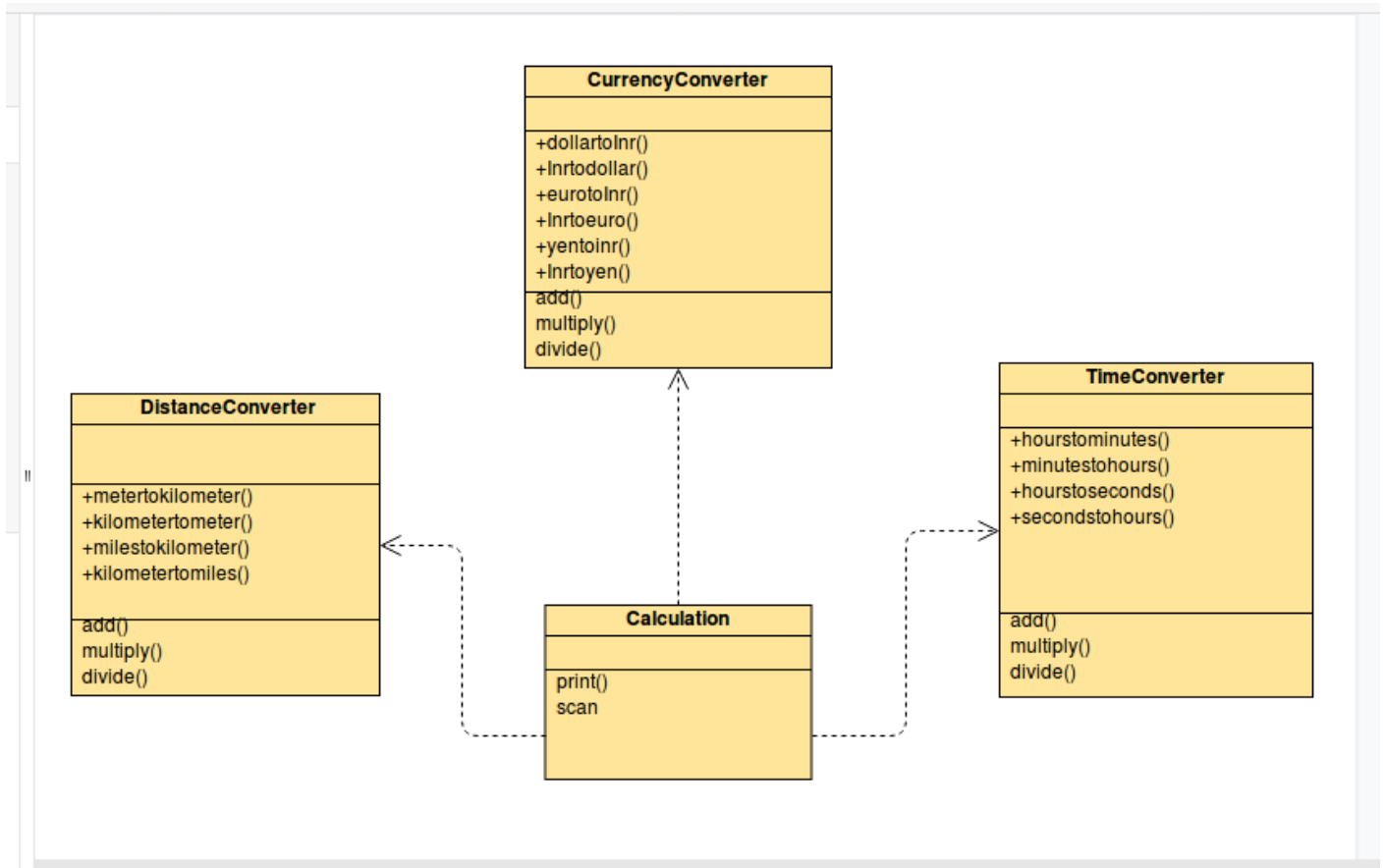STEP 3: Under the class CurrencyConverter write suitable java code to convert Dollar,Euro,yen to Inr and Inr to Dollar,Euro,Yen .
STEP 4: Under the class DistanceConverter write suitable java code to convert meter,mile to kilometer , and kilometer to meter,mile.
STEP 5: Under the class TimeConverter write suitable java code to convertminutes,seconds to hours and hours to minutes,seconds.
STEP 6: Under the class Calcultion1 create three new variables and get data from user for the required conversion type,process them and print the result.

CLASS DIAGRAM:

CurrencyConverter

+dollartoInr()
+Inrtodollar()
+eurotoInr()
+Inrtoeuro()
+yentoinr()
+Inrtoyen()

add()
multiply()
divide()

DistanceConverter

+metertokilometer()
+kilometertometer()
+milestokilometer()
+kilometertomiles()

add()
multiply()
divide()

TimeConverter

+hourstominutes()
+minutestohours()
+hourstoseconds()
+secondstohours()

add()
multiply()
divide()

Calculation

print()
scan

PROGRAM:

//** PROGRAM TO CONVERT CURRRENCY ,DISTANCE ,TIME**//
//**DEVELOPED BY HARIHARAN**//

```
package converterapp;
import java.util.Scanner;
import converterlibrary.*;
public class Calculation1
{
public static void main(String[]args)
{
```

```java
double get1,get2;
int select;
Scanner x=new Scanner(System.in);
{
System.out.println("1.dollar-INR conversion");
System.out.println("2.INR-dollar conversion");
System.out.println("3.euro-INR conversion");
System.out.println("4.INR-euro conversion");
System.out.println("5.yen-INR conversion");
System.out.println("6.INR-yen conversion");
System.out.println("7.meter-kilometer conversion");
System.out.println("8.kilometer-meter conversion");
System.out.println("9.miles-kilometer conversion");
System.out.println("10.kilometer-miles conversion");
System.out.println("11.hours-minutes conversion");
System.out.println("12.minutes-hours conversion");
System.out.println("13.hours-seconds conversion");
System.out.println("14.seconds-hours conversion");
System.out.println("ENTER THE REQUIRED CONVERSION OPTION ");
}
select=x.nextInt();
if(select==1)
{
System.out.println("enter the dollar value");
get1=x.nextFloat();
get2=CurrencyConverter.dollartoINR(get1);
System.out.println("INR equals to :"+get2);
}
if(select==2)
{
System.out.println("enter the INR value");
get1=x.nextFloat();
get2=CurrencyConverter.INRtodollar(get1);
System.out.println("dollar equals to :"+get2);
}
if(select==3)
{
System.out.println("enter the euro value");
get1=x.nextFloat();
get2=CurrencyConverter.eurotoINR(get1);
System.out.println("INR equals to :"+get2);
}
if(select==4)
{
System.out.println("enter the INR value");
get1=x.nextFloat();
get2=CurrencyConverter.INRtoeuro(get1);
System.out.println("euro equals to :"+get2);
}
```

```java
if(select==5)
{
System.out.println("enter the yen value");
get1=x.nextFloat();
get2=CurrencyConverter.yentoINR(get1);
System.out.println("INR equals to :"+get2);
}
if(select==6)
{
System.out.println("enter the INR value");
get1=x.nextFloat();
get2=CurrencyConverter.INRtoyen(get1);
System.out.println("yen equals to :"+get2);
}
if(select==7)
{
System.out.println("enter the meter value");
get1=x.nextFloat();
get2=DistanceConverter.metertokilometer(get1);
System.out.println("kilometer equals to :"+get2);
}
if(select==8)
{
System.out.println("enter the kilometer value");
get1=x.nextFloat();
get2=DistanceConverter.kilometertometer(get1);
System.out.println("meter equals to :"+get2);
}
if(select==9)
{
System.out.println("enter the miles value");
get1=x.nextFloat();
get2=DistanceConverter.miletokilometer(get1);
System.out.println("kilometer equals to :"+get2);
}
if(select==10)
{
System.out.println("enter the kilometer value");
get1=x.nextFloat();
get2=DistanceConverter.kilometertomile(get1);
System.out.println("mile equals to :"+get2);
}
if(select==11)
{
System.out.println("enter the hours value");
get1=x.nextFloat();
get2=TimeConverter.hourstominutes(get1);
System.out.println("minutes equals to :"+get2);
}
```

```java
if(select==12)
{
System.out.println("enter the minutes value");
get1=x.nextFloat();
get2=TimeConverter.minutestohours(get1);
System.out.println("hours equals to :"+get2);
}
if(select==13)
{
System.out.println("enter the hours value");
get1=x.nextFloat();
get2=TimeConverter.hourstoseconds(get1);
System.out.println("seconds equals to :"+get2);
}
if(select==14)
{
System.out.println("enter the seconds value");
get1=x.nextFloat();
get2=TimeConverter.secondstohours(get1);
System.out.println("hours equals to :"+get2);
}
}
}
package converterlibrary;
public class CurrencyConverter
{
public static double dollartoINR(double dollar)
{
double INR;
INR = dollar*68.54;
return INR;
}
public static double INRtodollar(double INR)
{
double dollar;
dollar = INR/68.54;
return dollar;
}
public static double eurotoINR(double euro)
{
double INR;
INR = euro*77.16;
return INR;
}
public static double INRtoeuro(double INR)
{
double euro;
euro = INR/77.16;
return INR;
```

```java
}
public static double yentoINR(double yen)
{
double INR;
INR = yen*0.64;
return INR;
}
public static double INRtoyen(double INR)
{
double yen;
yen = INR/0.64;
return yen;
}
}
package converterlibrary;
public class DistanceConverter
{
public static double metertokilometer1(double meter)
{
double kilometer;
kilometer = meter/1000;
return kilometer;
}
public static double kilometertometer(double kilometer)
{
double meter;
meter = kilometer*1000;
return meter;
}
public static double metertokilometer(double meter)
{
double kilometer;
kilometer = meter/1000;
return kilometer;
}
public static double miletokilometer(double mile)
{
double kilometer;
kilometer = mile*1.609;
return kilometer;
}
public static double kilometertomile(double kilometer)
{
double mile;
mile = kilometer/1.609;
return mile;
}
}
package converterlibrary;
```

```java
public class TimeConverter
{
public static double hourstominutes(double hours)
{
double minutes;
minutes = hours*60;
return minutes;
}
public static double minutestohours(double minutes)
{
double hours;
hours= minutes/60;
return hours;
}
public static double hourstoseconds(double hours)
{
double seconds;
seconds = hours*3600;
return seconds;
}
public static double secondstohours(double seconds)
{
double hours;
hours = seconds/3600;
return hours;
}
}
```

OUTPUT:

```
1.dollar-INR conversion
2.INR-dollar conversion
3.euro-INR conversion
6.INR-yen conversion
7.meter-kilometer conversion
8.kilometer-meter conversion
9.miles-kilometer conversion
10.kilometer-miles conversion
11.hours-minutes conversion
12.minutes-hours conversion
13.hours-seconds conversion
14.seconds-hours conversion
ENTER THE REQUIRED CONVERSION OPTION:
3
enter the euro value:
45
INR equals to : 3472.2
```

RESULT:

Hence a java application was created and executed to convert currency,distance,time.