CURRENCY CONVERTER, DISTANCE CONVERTER AND TIME CONVERTER USING PACKAGES

AIM:

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

ALGORITHM:

1. The package keyword is used to create a package in java.
2. Create a class CurrencyConverter inside a package name CurrencyConverter.
3. Class also contains methods dollortoinr, inrtodollor, eurotoinr, inrtoeuro, yentoinr, and inrtoyen with its parameters to convert given currency.
4. Create a class DistanceConverter inside a package name DistanceConverter.
5. Class also contains methods metertokm, kmtometer, milestokm and kmtomiles with its parameters to convert given distance.
6. Create a class TimeConverter inside a package name TimeConverter.
7. Class also contains methods hourstominutes, minutestohours, hourstoseconds and secondstohours with its parameters to convert given time.
8. Import the CurrencyConverter, DistanceConverter, TimeConverter and other java packages.
9. Create a class Converter and object for a class in memory and assign it to the reference variable, then the method is invoked.
10. By using Scanner class get the choices for switch statement during runtime.
11. By using switch case statement we can convert currency, distance and time for each choice.
12. Create object for a class in memory and assign it to the reference variable, then the method is invoked.
13. Finally, the conversion is displayed based on type of converter.

PROGRAM:

*//For Packages, Folder Name should be **CurrencyConverter** //File Name should be **CurrencyConverter.java***

```
package CurrencyConverter; public
class CurrencyConverter
{
public double dollortoinr(double x)
```

```
{
double inr=x*67.86;
return inr; }
public double inrtodollor(double x) {
double dollor=x/67.86;
return dollor; }
public double eurotoinr(double x)
{ double inr=x*79.18;
return inr; }
public double inrtoeuro(double x)
{ double euro=x/79.18;
return euro; }
public double yentoinr(double x)
{ double inr=x*0.62;
return inr; }
public double inrtoyen(double x)
{ double yen=x/0.62;
return yen;
}
}
```

*//For Packages, Folder Name should be **DistanceConverter** //File Name should be **DistanceConverter.java***

```
package DistanceConverter; public
class DistanceConverter
{
public double metertokm(double x)
{ double km=x*0.001;
return km; }
public double kmtometer(double x)
{ double meter=x/0.001;
return meter; }
public double milestokm(double x)
{ double km=x*1.60934;
return km; }
public double kmtomiles(double x)
{
double miles=x/1.60394;
return miles;
}
```

```
}
```

*//For Packages, Folder Name should be **TimeConverter***
*//File Name should be **TimeConverter.java***

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

*//File Name should be **Converter.java** separate this file from above 3 folders*

```
import CurrencyConverter.*;
import DistanceConverter.*;
import TimeConverter.*; import
java.io.*;
import java.util.*;

class Converter
{
```

```
public static void main(String args[])
{
System.out.println("1.CurrencyConverter");
System.out.println("2.DistanceConverter");
System.out.println("3.TimeConverter");
Converter cr = new Converter(); Scanner c
= new Scanner(System.in);
int choice = c.nextInt(); String
op = null; switch(choice)
{ case 1: cr.Currency(); break;
case 2: cr.Distance(); break;
case 3: cr.Time(); break;
default:
System.out.println("Invalid case");
return; }
}

public void Currency()
{
  Scanner in = new Scanner(System.in);
  System.out.println("Welcome to Currency Converter");
  System.out.println("Enter the amount :"); double
  amt = in.nextInt();
  CurrencyConverter cc = new CurrencyConverter();
  System.out.println("DOLLOR="+amt+" is INR="+cc.dollortoinr(amt));
  System.out.println("INR="+amt+" is DOLLOR="+cc.inrtodollor(amt));
  System.out.println("EURO="+amt+" is INR="+cc.eurotoinr(amt));
  System.out.println("INR="+amt+" is EURO="+cc.inrtoeuro(amt));
  System.out.println("YEN="+amt+" is INR="+cc.yentoinr(amt));
  System.out.println("INR="+amt+" is YEN="+cc.inrtoyen(amt));
}

public void Distance()
{
  Scanner in = new Scanner(System.in);
  System.out.println("Welcome to Distance Converter");
  System.out.println("Enter the distance :"); double
  dis = in.nextInt();
  DistanceConverter dd = new DistanceConverter(); System.out.println("METER="+dis+" is
  KM="+dd.metertokm(dis));
  System.out.println("KM="+dis+" is METER="+dd.kmtometer(dis));
```

```
  System.out.println("MILES="+dis+" is KM="+dd.milestokm(dis));
  System.out.println("KM="+dis+" is MILES="+dd.kmtomiles(dis)); }

public void Time()
{
  Scanner out = new Scanner(System.in);
  System.out.println("Welcome to Time Converter");
  System.out.println("Enter the time :"); double
  tim = out.nextInt();
  TimeConverter tt = new TimeConverter();
  System.out.println("HOURS="+tim+" is MINUTES="+tt. hourstominutes(tim));
  System.out.println("MINUTES="+tim+" is HOURS="+tt.minutestohours(tim));
  System.out.println("HOURS="+tim+" is SECONDS="+tt.hourstoseconds(tim));
  System.out.println("SECONDS="+tim+" is HOURS="+tt.secondstohours(tim));
}
}
```

NOTE:

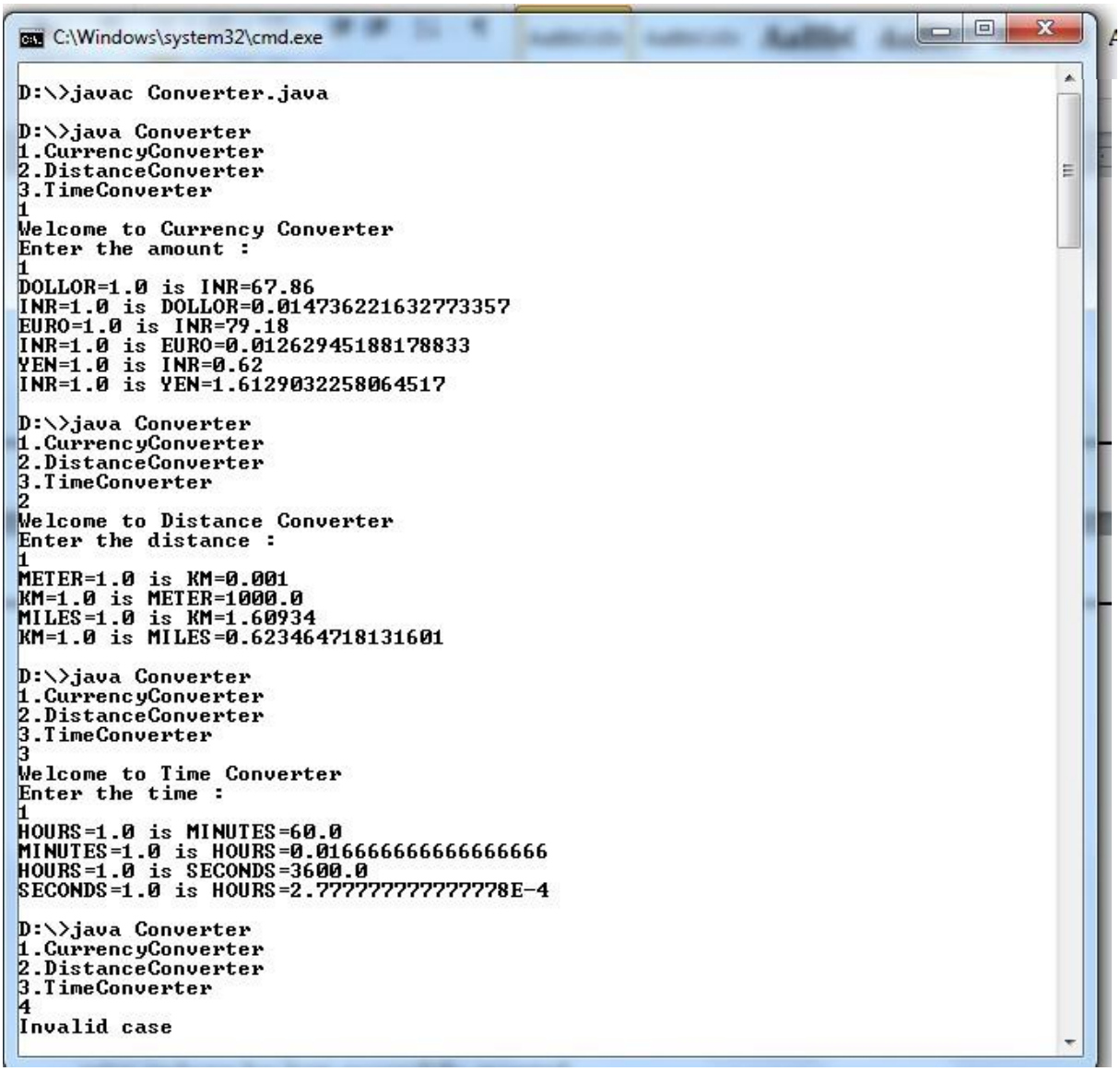
To Compile, go to ***CurrencyConverter*** *folder*
javac CurrencyConverter.java

To Compile, go to ***DistanceConverter*** *folder*
javac DistanceConverter.java

To Compile, go to ***TimeConverter*** *folder*
javac TimeConverter.java

To Compile,
javac Converter.java To
Run
java Converter

OUTPUT:


C:\Windows\system32\cmd.exe
D:\>javac Converter.java
D:\>java Converter
1.CurrencyConverter
2.DistanceConverter
3.TimeConverter
1
Welcome to Currency Converter
Enter the amount :
1
DOLLOR=1.0 is INR=67.86
INR=1.0 is DOLLOR=0.014736221632773357
EURO=1.0 is INR=79.18
INR=1.0 is EURO=0.01262945188178833
YEN=1.0 is INR=0.62
INR=1.0 is YEN=1.6129032258064517
D:\>java Converter
1.CurrencyConverter
2.DistanceConverter
3.TimeConverter
2
Welcome to Distance Converter
Enter the distance :
1
METER=1.0 is KM=0.001
KM=1.0 is METER=1000.0
MILES=1.0 is KM=1.60934
KM=1.0 is MILES=0.623464718131601
D:\>java Converter
1.CurrencyConverter
2.DistanceConverter
3.TimeConverter
3
Welcome to Time Converter
Enter the time :
1
HOURS=1.0 is MINUTES=60.0
MINUTES=1.0 is HOURS=0.016666666666666666
HOURS=1.0 is SECONDS=3600.0
SECONDS=1.0 is HOURS=2.777777777777778E-4
D:\>java Converter
1.CurrencyConverter
2.DistanceConverter
3.TimeConverter
4
Invalid case

RESULT:

Thus the application for currency converter, distance converter and time converter using packages has been successfully executed.