EX 02	CURRENCY CONVERTER
11-07-19	

AIM:

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

REQUIREMENT:

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) using packages.
Create a package converterlibrary

->Create a class CurrencyConverter and define methods for dollarsToINR, 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 houyrsToMinutes, hoursToSeconds and vice-versa.

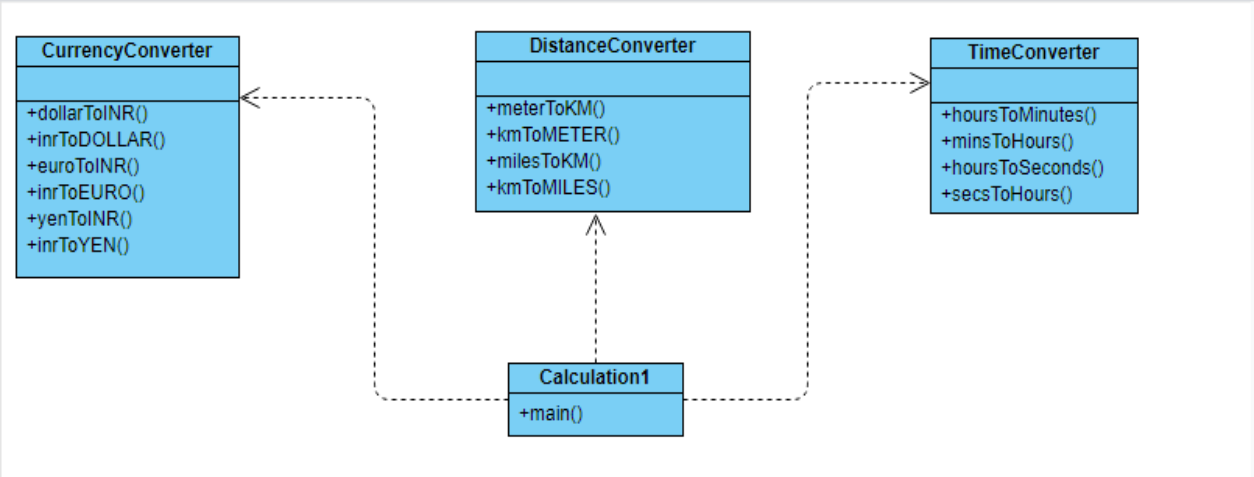
Create a package converteapp

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

ALGORITHMS:

Step 1: Create class CurrencyConverter with required methods in package converterlibrary.
Step 2: Create class DisctanceConverter with required methods in package converterlibrary.
Step 3: Create class TimeConverer with required methods in package converterlibrary.
Step 4: Create class Calculation1 with static main function in package converterapp.
Step 5: Import converterlibrary.
Step 6: Use switch case to perform the required task/
Step 7: Get data, compute and display.

CLASS DIAGRAM:



PROGRAM:

CurrencyConverter.java

```
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/68.52);;
       return DOLLAR;
     }
     public static double euroToINR (double euro)
     { double INR;
       INR=77.16*euro;
       return INR;
     }
     public static double inrToEURO(double inr)
     { double EURO;
       EURO=(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);
       return YEN;
     }
}
```

DistanceConverter.java

```
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=1.609*miles;
        return KM;
      }
      public static double kmToMILES(double km)
      { double MILES;
        MILES=(km/1.609)+(km%1.609);
        return MILES;
      }
}
```

TimeConverter.java

```
package converterlibrary;

public class TimeConverter {
      public static double hoursToMinutes (double hours)
      { double Minutes;
        Minutes=60*hours;
        return Minutes;
      }
      public static double minsToHours (double mins)
      { double Hours;
        Hours=(mins/60);
        return Hours;
      }
      public static double hoursToSeconds (double hours)
      { double Seconds;
        Seconds=3600*hours;
        return Seconds;
      }
      public static double secsToHours (double secs)
      { double Hours;
        Hours=(secs/3600);
        return Hours;
      }
}
```

Calculations1.java

```
package converterapp;

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

public class Calculation1 {
      public static void main(String[] args) {
            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 Miles");
                System.out.println("11.Hours to Mins");
                System.out.println("12.Mins to Hours");
                System.out.println("13.Hours to Secs");
                System.out.println("14.Secs to Hours");
                System.out.println("15. 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.minsToHours(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.secsToHours(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 Miles
11. Hours to Mins
12. Mins to Hours
13. Hours to Secs
14. Secs to Hours
15. Exit
Enter your choice: 1
Enter Dollars: 4
4.00Dollars = 274.08Rs
```

RESULT:

Thus a java console application has been created to implement currency, time, and distance conversion.