-Aishwarya S 19BCE1709

1.

PRIME PACKAGE:

```java
package primepackages;
import java.math.*;

public class primes
{   public Boolean checkforprime(int n)
 {      if(n%3==0&&n>3)
        { return false;}
        else if(n%2==0&&n>2)
          { return false;
          }
          else if(n==1||n==0)
          {return false;

          }
          int i =5;
    while (i<=Math.sqrt(n))
    {
    if (n % i== 0)
        return false;

  i=i+1;
  }
return true;

}

}
```

TWIN PRIMES

```java
import primepackages.primes;
import java.util.*;
class twinprimes
{    primes r = new primes();
     void tp(int n, int m)
```

```java
{Boolean b, c;
    int j;
    for(int i=n;i<=m-2;i++)
  {
        j=i+2;
      b=r.checkforprime(i);
    c=r.checkforprime(j);
      if(b&&c)
      {System.out.print(i+" "+j+"\n");
        }


  }


}


    public static void main(String[] args)
{
    System.out.print("Aishwarya S 19BCE1709\n");
     Scanner sc= new Scanner(System.in);
      System.out.print("Enter the lower bound: ");
    int n=sc.nextInt();
System.out.print("Enter the upper bound: ");
    int m=sc.nextInt();
    twinprimes tw= new twinprimes();
    tw.tp(n,m);




}
}
```

OUTPUT:

```
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -d . primes.java        ]
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -cp ".:/Users/aishwarya/]
Desktop" twinprimes.java
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % java -cp ".:/Users/aishwarya/D]
esktop" twinprimes
Aishwarya S 19BCE1709
Enter the lower bound: 1
Enter the upper bound: 20
3 5
5 7
11 13
17 19
(base) aishwarya@Aishwaryas-MacBook-Pro Desktop %
```

2.

PERSONAL DETAILS PACKAGE:

```java
package personal;
import java.util.*;

public class personal_details
{
    public String name;
 public String address;
 public double income;
 public int defaulter;
 Scanner s= new Scanner(System.in);
  public personal_details()
  {
      System.out.print("Personal details\nName: ");
       this.name=s.nextLine();
       System.out.print("Address: ");
        this.address= s.nextLine();
       System.out.print("Income: ");
    this.income=s.nextDouble();
     System.out.print("Defaulter(N=0, Y=1): ");
      this.defaulter=s.nextInt();
      System.out.print("\n");


    }
```

```java
    public personal_details(String name, String address, Double income, int
defaulter)
  {this.name=name;
this.address= address;
this.income=income;
  this.defaulter=defaulter;



  }


}
```

HOUSE LOAN PACKAGE:

```java
package hloan;
import java.util.*;
import personal.personal_details;

public class house_loan extends personal_details
{   Scanner s= new Scanner(System.in);
     public double interest_rate;
    public double loanamt;
    public double loan_tenure;
    public double finamt;
     public int approved;
    public house_loan()
     {

            super();

         System.out.print("house loan details\nLoan amount: ");
          this.loanamt=s.nextDouble();
        this.interest_rate=9;
         System.out.print("Loan Tenure(in years): ");
        this.loan_tenure=s.nextDouble();
        this.finamt=0;
    }
    public void calcloanappr()
    {   if(income>=1000000&&defaulter==0)
        {
            approved=1;
        }
        else
        {
            approved=0;
        }
```

```java
        if(approved==1)
        { System.out.print("Approval Status: approved\n");
        }
        else
        {System.out.print("Approval Status: Denied \n");


        }



    }


    public double calcfinal()
    {
this.finamt=this.loanamt*(1+(this.interest_rate*this.loan_tenure)/100);
        return this.finamt;
    }




}
```

HOME DEMO PACKAGE:

```java
package hloan;
import java.util.*;
import personal.personal_details;

public class house_demo extends personal_details
{
    public house_demo(String name, String address, Double income, int
defaulter)
    {
        super( name,  address,  income,  defaulter);
    }

    public void  demodisplay()
    {
        String y;
         if(defaulter==1)
          {
              y="Yes";
          }
          else
          {
                y="No";
          }
```

```java
        System.out.print("Name: "+ name +" Address: "+ address+ " Income:
"+ income+" Defaulter: "+ y+ " Loan: House Loan\n");
    }
}
```

MAIN PROGRAM:

```java
import java.util.*;
import hloan.house_loan;
import hloan.house_demo;
class lab5
{
   public static void main(String args[])
    {    System.out.print("19BCE1709 Aishwarya S\n");
        house_loan pl = new house_loan();

        house_demo pd =new house_demo(pl.name, pl.address, pl.income,
pl.defaulter);
        pd.demodisplay();
       pl.calcloanappr();
        double d= pl.calcfinal();
        System.out.print("Final amount to be paid with with interet: "+
d+"\n");

    }
}
```

OUTPUT:

```
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -d . house_demo.java    ]
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -d . house_loan.java     ]
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -cp ".:/Users/aishwarya/]
Desktop" lab5.java
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % java -cp ".:/Users/aishwarya/D]
esktop" lab5
19BCE1709 Aishwarya S
Personal details
Name: Lily
Address: Chennai
Income: 1200000
Defaulter(N=0, Y=1): 0

house loan details
Loan amount: 4000000
Loan Tenure(in years): 6.6
Name: Lily Address: Chennai Income: 1200000.0 Defaulter: No Loan: House Loan
Approval Status: approved
Final amount to be paid with with interet: 5848000.0
(base) aishwarya@Aishwaryas-MacBook-Pro Desktop %
```

JEWEL LOAN PACKAGE:

```java
package jloan;
import java.util.*;
import personal.personal_details;

public class jewel_loan extends personal_details
{    Scanner s= new Scanner(System.in);
     public double interest_rate;
    public double loanamt;
    public double loan_tenure;
    public double finamt;
     public int approved;
    public jewel_loan()
     {

            super();

         System.out.print("Jewel loan details\nLoan amount: ");
          this.loanamt=s.nextDouble();
         this.interest_rate=8;
          System.out.print("Loan Tenure(in years): ");
         this.loan_tenure=s.nextDouble();
         this.finamt=0;
```

```java
        }
    public void calcloanappr()
      {   if(income>=100000)
            {
                approved=1;
            }
            else
            {
                approved=0;
            }
        if(approved==1)
        { System.out.print("Approval Status: approved\n");
        }
        else
        {System.out.print("Approval Status: Denied \n");


        }



    }


    public double calcfinal()

{this.finamt=this.loanamt*(1+(this.interest_rate*this.loan_tenure)/100);


        return this.finamt;
    }




}
```

JEWEL DEMO PACKAGE:

```java
package jloan;
import java.util.*;
import personal.personal_details;

public class jewel_demo extends personal_details
{
    public jewel_demo(String name, String address, Double income, int
defaulter)
    {
        super( name,  address,  income,  defaulter);
    }
```

```java
    public void  demodisplay()
      {
          String y;
           if(defaulter==1)
            {
                y="Yes";
            }
            else
            {
                y="No";
            }
          System.out.print("Name: "+ name +" Address: "+ address+ " Income:
"+ income+" Defaulter: "+ y+ " Loan: Jewel Loan\n");
       }
}
import java.util.*;
import jloan.jewel_loan;
import jloan.jewel_demo;
class lab5
{
   public static void main(String args[])
    {     System.out.print("19BCE1709 Aishwarya S\n");
        jewel_loan pl = new jewel_loan();

        jewel_demo pd =new jewel_demo(pl.name, pl.address, pl.income,
pl.defaulter);
        pd.demodisplay();
      pl.calcloanappr();
        double d= pl.calcfinal();
        System.out.print("Final amount to be paid with with interet: "+
d+"\n");

    }
}
```

MAIN PROGRAM:

```java
import java.util.*;
import jloan.jewel_loan;
import jloan.jewel_demo;
class lab5
{
   public static void main(String args[])
    {     System.out.print("19BCE1709 Aishwarya S\n");
```
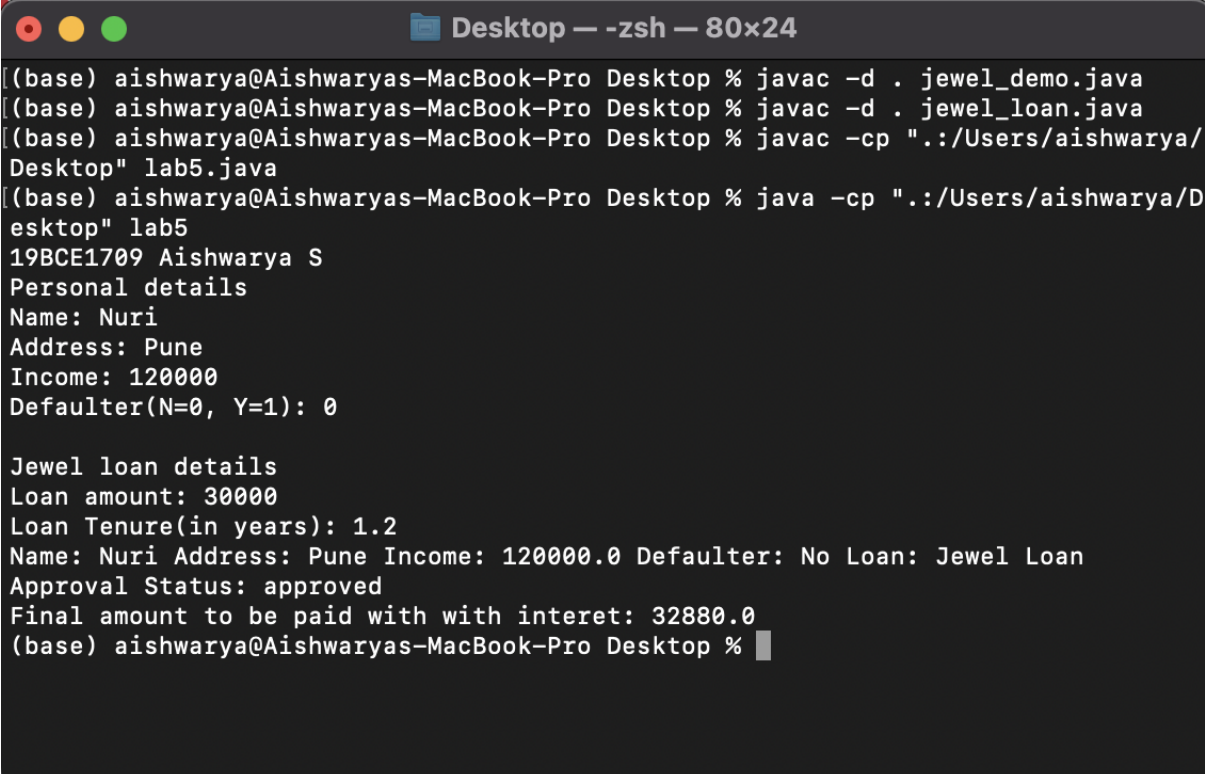
```java
        jewel_loan pl = new jewel_loan();


        jewel_demo pd =new jewel_demo(pl.name, pl.address, pl.income,
pl.defaulter);
        pd.demodisplay();
      pl.calcloanappr();
       double d= pl.calcfinal();
       System.out.print("Final amount to be paid with with interet: "+
d+"\n");


    }
}
```

OUTPUT:


```
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -d . jewel_demo.java
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -d . jewel_loan.java
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -cp ".:/Users/aishwarya/
Desktop" lab5.java
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % java -cp ".:/Users/aishwarya/D
esktop" lab5
19BCE1709 Aishwarya S
Personal details
Name: Nuri
Address: Pune
Income: 120000
Defaulter(N=0, Y=1): 0

Jewel loan details
Loan amount: 30000
Loan Tenure(in years): 1.2
Name: Nuri Address: Pune Income: 120000.0 Defaulter: No Loan: Jewel Loan
Approval Status: approved
Final amount to be paid with with interet: 32880.0
(base) aishwarya@Aishwaryas-MacBook-Pro Desktop %
```

VEHICLE LOAN PACKAGE:

```java
package vloan;

import java.util.*;

import personal.personal_details;


public class vehicle_loan extends personal_details
{   Scanner s= new Scanner(System.in);
     public double interest_rate;
    public double loanamt;
```

```java
        public double loan_tenure;
        public double finamt;
         public int approved;
        public vehicle_loan()
         {

             super();

             System.out.print("Vehicle loan details\nLoan amount: ");
             this.loanamt=s.nextDouble();
            this.interest_rate=9;
             System.out.print("Loan Tenure(in years): ");
            this.loan_tenure=s.nextDouble();
            this.finamt=0;
         }
        public void calcloanappr()
         {   if(income>=500000&&defaulter==0)
             {
                 approved=1;
             }
             else
             {
                 approved=0;
             }
          if(approved==1)
          { System.out.print("Approval Status: approved\n");
          }
          else
          {System.out.print("Approval Status: Denied \n");

          }

         }

        public double calcfinal()
        {
this.finamt=this.loanamt*(1+(this.interest_rate*this.loan_tenure)/100);
          return this.finamt;
        }

}
```

VEHICLE DEMO PACKAGE:

```java
package vloan;
import java.util.*;
import personal.personal_details;

public class vehicle_demo extends personal_details
{
    public vehicle_demo(String name, String address, Double income, int
defaulter)
      {
          super( name,  address,  income,  defaulter);
      }


    public void  demodisplay()
      {
          String y;
           if(defaulter==1)
            {
                y="Yes";
            }
            else
            {
                  y="No";
            }
          System.out.print("Name: "+ name +" Address: "+ address+ " Income:
"+ income+" Defaulter: "+ y+ " Loan: Vehicle Loan\n");
        }
}
```


MAIN PROGRAM:

```java
import java.util.*;
import vloan.vehicle_loan;
import vloan.vehicle_demo;
class lab5
{
    public static void main(String args[])
      {    System.out.print("19BCE1709 Aishwarya S\n");
          vehicle_loan pl = new vehicle_loan();


          vehicle_demo pd =new vehicle_demo(pl.name, pl.address, pl.income,
pl.defaulter);
```

```
        pd.demodisplay();
        pl.calcloanappr();
        double d= pl.calcfinal();
        System.out.print("Final amount to be paid with with interet: "+
d+"\n");


    }
}
```

OUTPUT:

PERSONAL LOAN PACKAGE:

```
package ploan;
import java.util.*;
import personal.personal_details;


public class personal_loan extends personal_details
{   Scanner s= new Scanner(System.in);
     public double interest_rate;
    public double loanamt;
    public double loan_tenure;
    public double finamt;
     public int approved;
```

```java
    public personal_loan()
     {

          super();

          System.out.print("Personal loan details\nLoan amount: ");
          this.loanamt=s.nextDouble();
        this.interest_rate=10;
         System.out.print("Loan Tenure(in years): ");
        this.loan_tenure=s.nextDouble();
        this.finamt=0;
     }
    public void calcloanappr()
     {   if(income>=500000&&defaulter==0)
         {
              approved=1;
         }
         else
         {
              approved=0;
         }
      if(approved==1)
      { System.out.print("Approval Status: approved\n");
      }
      else
      {System.out.print("Approval Status: Denied \n");


      }



     }


    public double calcfinal()
     {
this.finamt=this.loanamt*(1+(this.interest_rate*this.loan_tenure)/100);
       return this.finamt;
     }




}
```

PERSONAL DEMO PACKAGE:

```java
package ploan;
```

```java
import java.util.*;
import personal.personal_details;

public class personal_demo extends personal_details
{
    public personal_demo(String name, String address, Double income, int
defaulter)
    {
        super( name,  address,  income,  defaulter);
    }

    public void  demodisplay()
    {
        String y;
         if(defaulter==1)
          {
              y="Yes";
          }
          else
          {
                y="No";
          }
        System.out.print("Name: "+ name +" Address: "+ address+ " Income:
"+ income+" Defaulter: "+ y+ " Loan: Personal Loan\n");
    }
}
```

MAIN PROGRAM:
```java
import java.util.*;
import ploan.personal_loan;
import ploan.personal_demo;
class lab5
{
    public static void main(String args[])
    {   System.out.print("19BCE1709 Aishwarya S\n");
        personal_loan pl = new personal_loan();

        personal_demo pd =new personal_demo(pl.name, pl.address, pl.income,
pl.defaulter);
        pd.demodisplay();
       pl.calcloanappr();
        double d= pl.calcfinal();
        System.out.print("Final amount to be paid with with interet: "+
d+"\n");
```

```
        }
}
```

OUTPUT:


```
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -d . personal_demo.java ]
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -d . personal_loan.java ]
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % javac -cp ".:/Users/aishwarya/]
Desktop" lab5.java
[(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % java -cp ".:/Users/aishwarya/D]
esktop" lab5
19BCE1709 Aishwarya S
Personal details
Name: Rumi
Address: Chennai
Income: 900000
Defaulter(N=0, Y=1): 0

Personal loan details
Loan amount: 300000
Loan Tenure(in years): 1.2
Name: Rumi Address: Chennai Income: 900000.0 Defaulter: No Loan: Personal Loan
Approval Status: approved
Final amount to be paid with with interet: 336000.00000000006
(base) aishwarya@Aishwaryas-MacBook-Pro Desktop % 
```