EAST WEST UNIVERSITY

Course Title: CSE110

Section: 06

Semester: Summer 22

Week 01 Class Practice

SUBMITTED TO

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Associate Professor

SUBMITTED BY

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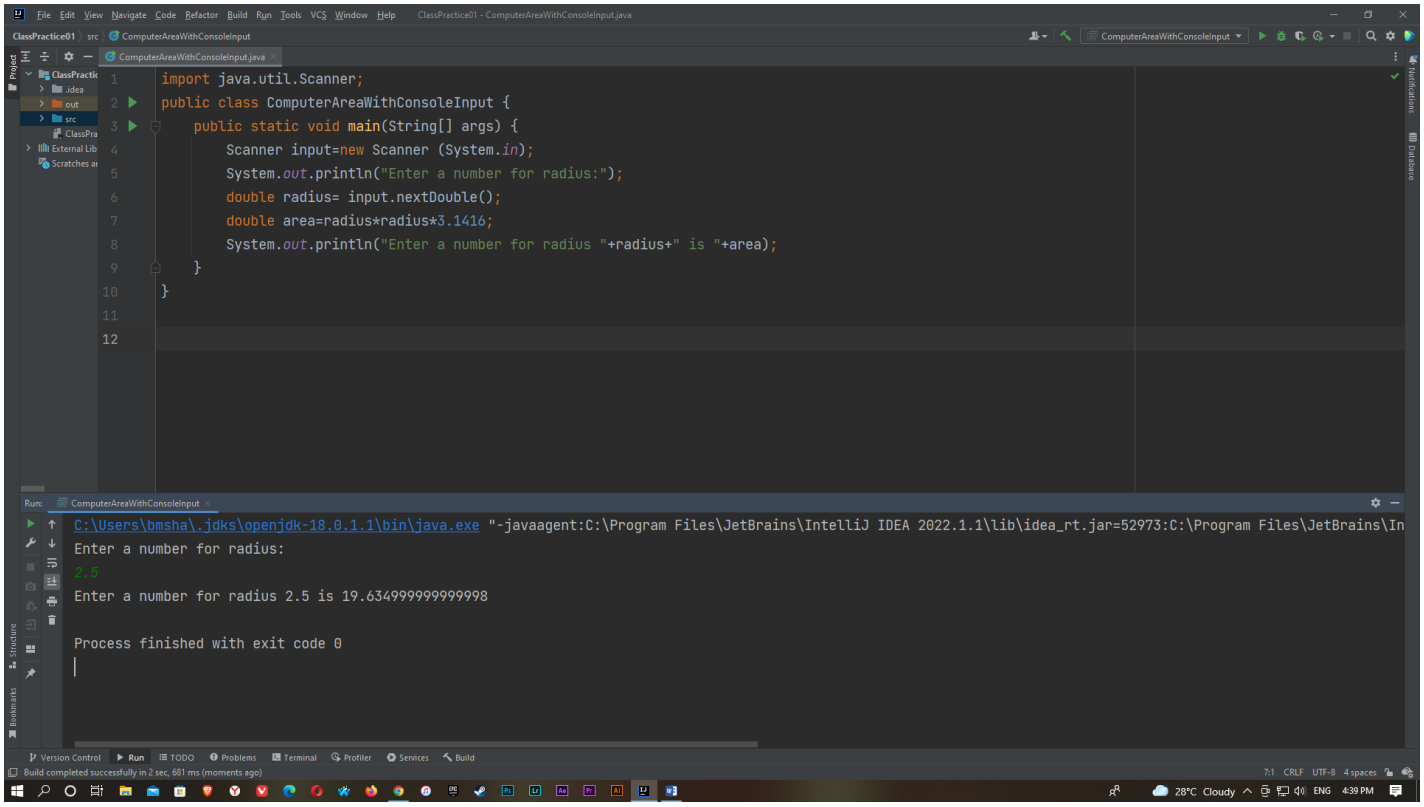
1.

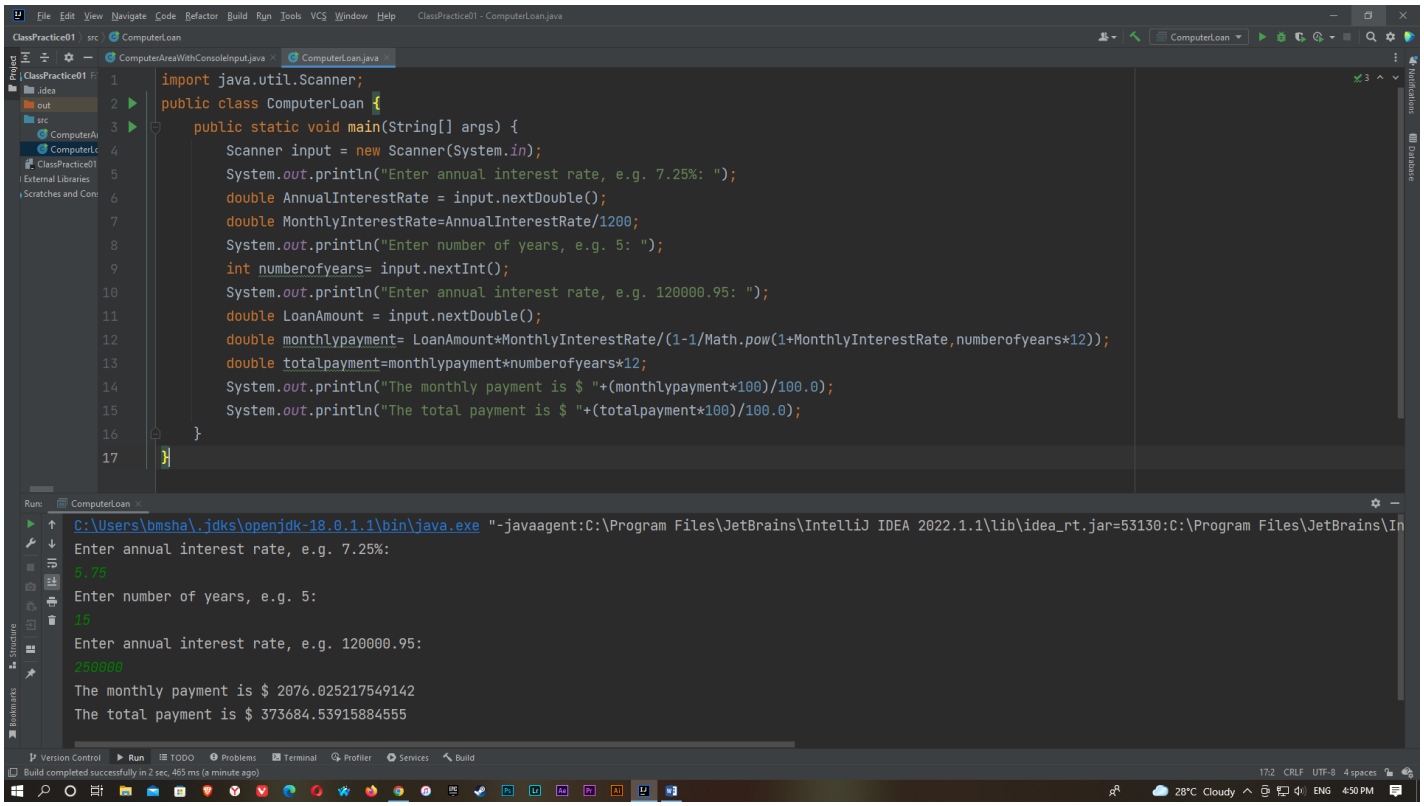
```
import java.util.Scanner;
public class ComputerAreaWithConsoleInput {
    public static void main(String[] args) {
        Scanner input=new Scanner (System.in);
        System.out.println("Enter a number for radius:");
        double radius= input.nextDouble();
        double area=radius*radius*3.1416;
        System.out.println("Enter a number for radius "+radius+" is "+area);
    }
}
```



2.

```
import java.util.Scanner;
public class ComputerLoan {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
```

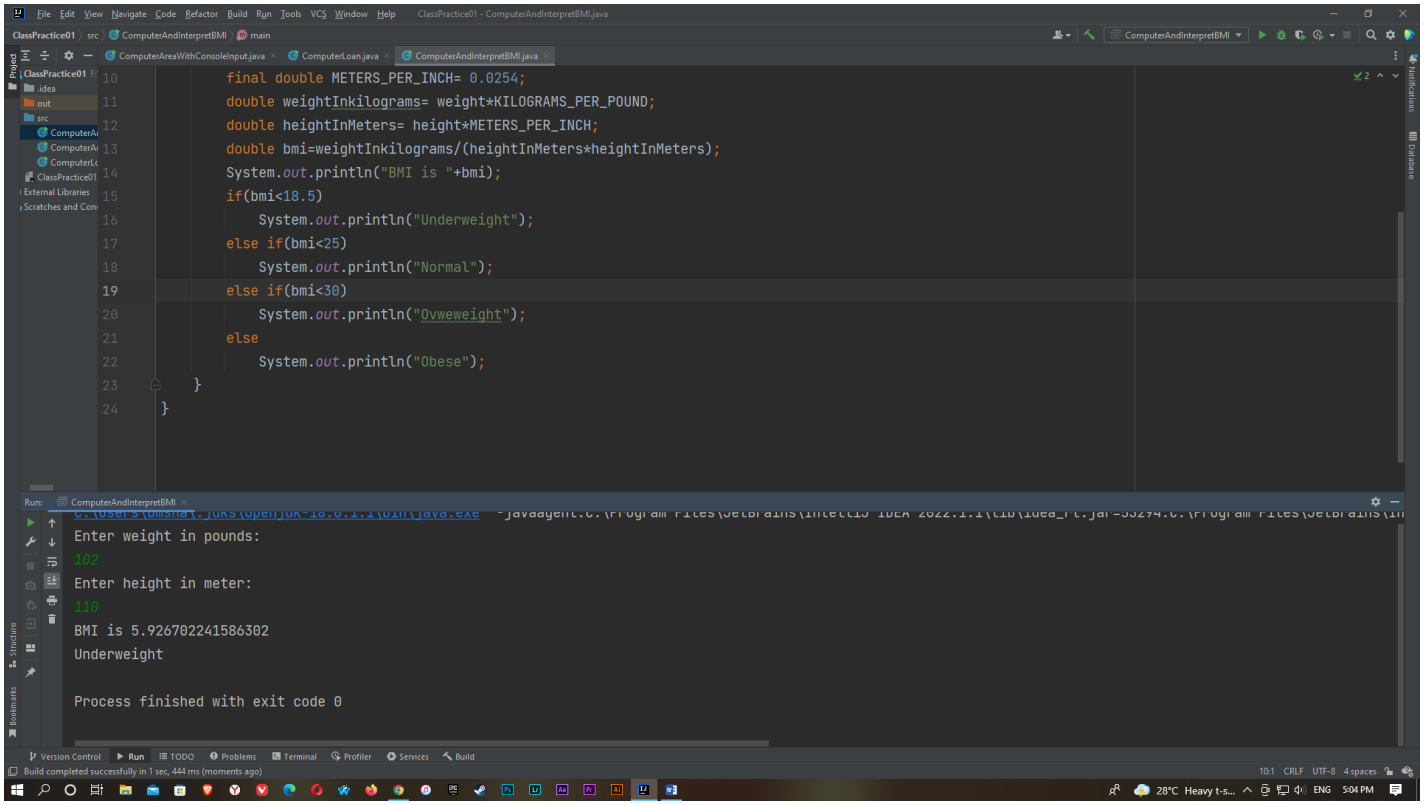
```
        System.out.println("Enter annual interest rate, e.g. 7.25%: ");
        double AnnualInterestRate = input.nextDouble();
        double MonthlyInterestRate=AnnualInterestRate/1200;
        System.out.println("Enter number of years, e.g. 5: ");
        int numberofyears= input.nextInt();
        System.out.println("Enter annual interest rate, e.g. 120000.95: ");
        double LoanAmount = input.nextDouble();
        double monthlypayment= LoanAmount*MonthlyInterestRate/(1-
1/Math.pow(1+MonthlyInterestRate,numberofyears*12));
        double totalpayment=monthlypayment*numberofyears*12;
        System.out.println("The monthly payment is $ "+(monthlypayment*100)/100.0);
        System.out.println("The total payment is $ "+(totalpayment*100)/100.0);
    }
}
```



3.

```
import java.util.Scanner;
```

```
public class ComputerAndInterpretBMI {
   public static void main(String[] args) {
      Scanner input = new Scanner(System.in);
      System.out.println("Enter weight in pounds: ");
      double weight = input.nextDouble();
      System.out.println("Enter height in meter: ");
      double height = input.nextDouble();
      final double KILOGRAMS_PER_POUND= 0.45359237;
      final double METERS_PER_INCH= 0.0254;
      double weightInkilograms= weight*KILOGRAMS_PER_POUND;
      double heightInMeters= height*METERS_PER_INCH;
      double bmi=weightInkilograms/(heightInMeters*heightInMeters);
      System.out.println("BMI is "+bmi);
      if(bmi<18.5)
         System.out.println("Underweight");
      else if(bmi<25)
         System.out.println("Normal");
      else if(bmi<30)
         System.out.println("Ovweweight");
      else
         System.out.println("Obese");
   }
}
```



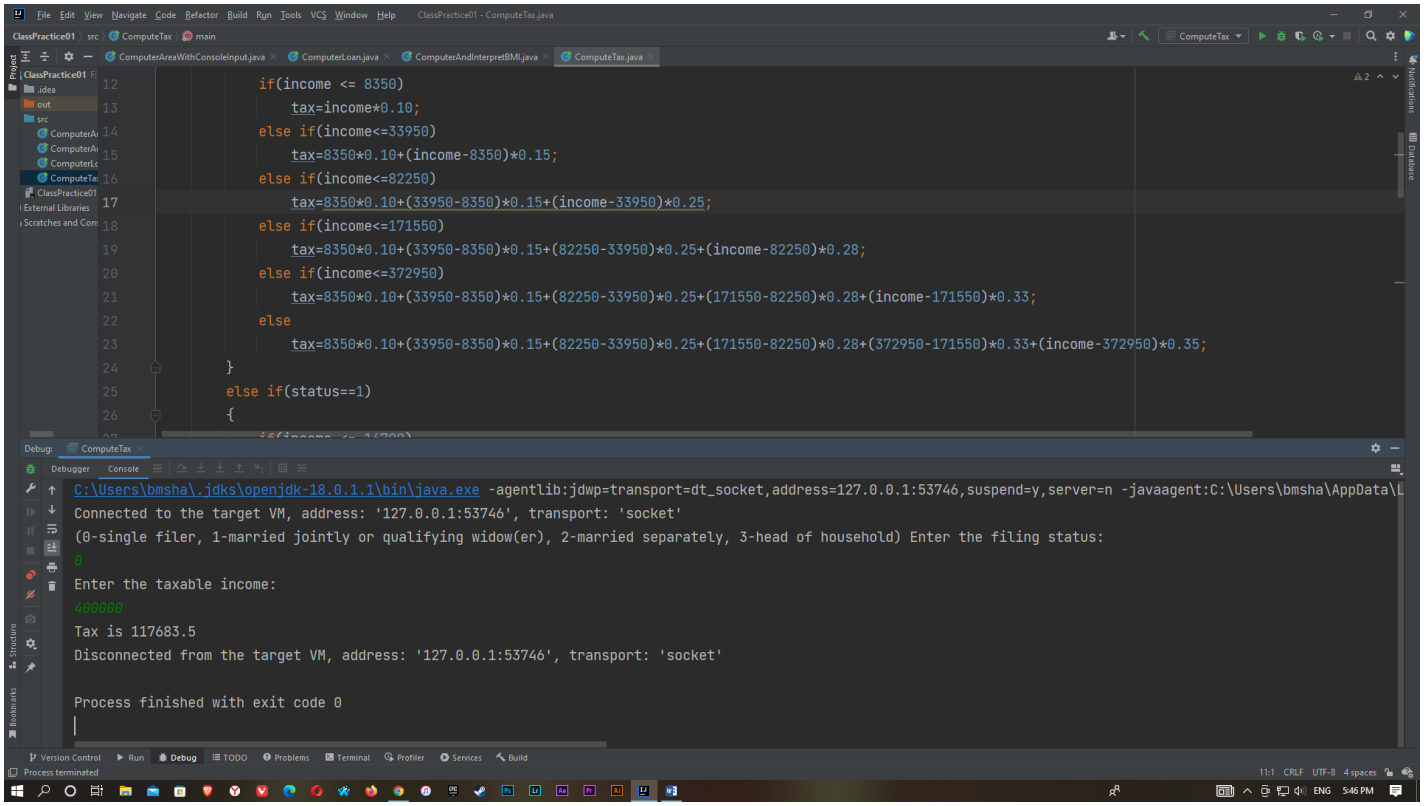
4.

```
import java.util.Scanner;

public class ComputeTax {

   public static void main(String[] args) {

      Scanner input = new Scanner(System.in);

      System.out.println("(0-single filer, 1-married jointly or "+"qualifying widow(er), 2-married separately, 3-head of "+"household) Enter the filing status: ");

      int status = input.nextInt();

      System.out.println("Enter the taxable income: ");

      double income= input.nextDouble();

      double tax=0;

      if(status==0)

      {

         if(income <= 8350)

            tax=income*0.10;

         else if(income<=33950)
```

```
            tax=8350*0.10+(income-8350)*0.15;
        else if(income<=82250)
            tax=8350*0.10+(33950-8350)*0.15+(income-33950)*0.25;
        else if(income<=171550)
            tax=8350*0.10+(33950-8350)*0.15+(82250-33950)*0.25+(income-82250)*0.28;
        else if(income<=372950)
            tax=8350*0.10+(33950-8350)*0.15+(82250-33950)*0.25+(171550-82250)*0.28+(income-171550)*0.33;
        else
            tax=8350*0.10+(33950-8350)*0.15+(82250-33950)*0.25+(171550-82250)*0.28+(372950-
171550)*0.33+(income-372950)*0.35;
    }
    else if(status==1)
    {
        if(income <= 16700)
            tax=income*0.10;
        else if(income<=67900)
            tax=16700*0.10+(income-16700)*0.15;
        else if(income<=137050)
            tax=16700*0.10+(67901-16700)*0.15+(income-67900)*0.25;
        else if(income<=208850)
            tax=16700*0.10+(67901-16700)*0.15+(137050-33950)*0.25+(income-137050)*0.28;
        else if(income<=372950)
            tax=16700*0.10+(67901-16700)*0.15+(137050-33950)*0.25+(208850-137050)*0.28+(income-208850)*0.33;
        else
            tax=16700*0.10+(67901-16700)*0.15+(137050-33950)*0.25+(208850-137050)*0.28+(372951-
171550)*0.33+(income-372951)*0.35;
    }
    else if(status==2)
    {
        if (income <= 8350)
            tax = income * 0.10;
```

```
    else if (income <= 33950)
        tax = 8350 * 0.10 + (income - 8350) * 0.15;
    else if (income <= 68525)
        tax = 8350 * 0.10 + (33950 - 8350) * 0.15 + (income - 33950) * 0.25;
    else if (income <= 104425)
        tax = 8350 * 0.10 + (33950 - 8350) * 0.15 + (68525 - 33950) * 0.25 + (income - 68525) * 0.28;
    else if (income <= 186475)
        tax = 8350 * 0.10 + (33950 - 8350) * 0.15 + (68525 - 33950) * 0.25 + (104425 - 68525) * 0.28 + (income -
104425) * 0.33;
    else
        tax = 8350 * 0.10 + (33950 - 8350) * 0.15 + (68525 - 33950) * 0.25 + (104425 - 68525) * 0.28 + (186475 -
104425) * 0.33 + (income - 186475) * 0.35;
  }
  else if(status==3)
  {
    if (income <= 11950)
        tax = income * 0.10;
    else if (income <= 45500)
        tax = 11950 * 0.10 + (income - 11950) * 0.15;
    else if (income <= 117450)
        tax = 11950 * 0.10 + (45500 - 11950) * 0.15 + (income - 45500) * 0.25;
    else if (income <= 190200)
        tax = 11950 * 0.10 + (45500 - 11950) * 0.15 + (117450 - 45500) * 0.25 + (income - 117450) * 0.28;
    else if (income <= 372950)
        tax = 11950 * 0.10 + (45500 - 11950) * 0.15 + (117450 - 45500) * 0.25 + (190200- 117450) * 0.28 + (income -
190200) * 0.33;
    else
        tax = 11950 * 0.10 + (45500 - 11950) * 0.15 + (117450 - 45500) * 0.25 + (190200 - 117450) * 0.28 + (372950 -
1190200) * 0.33 + (income - 372950) * 0.35;
  }
  else
  {
```

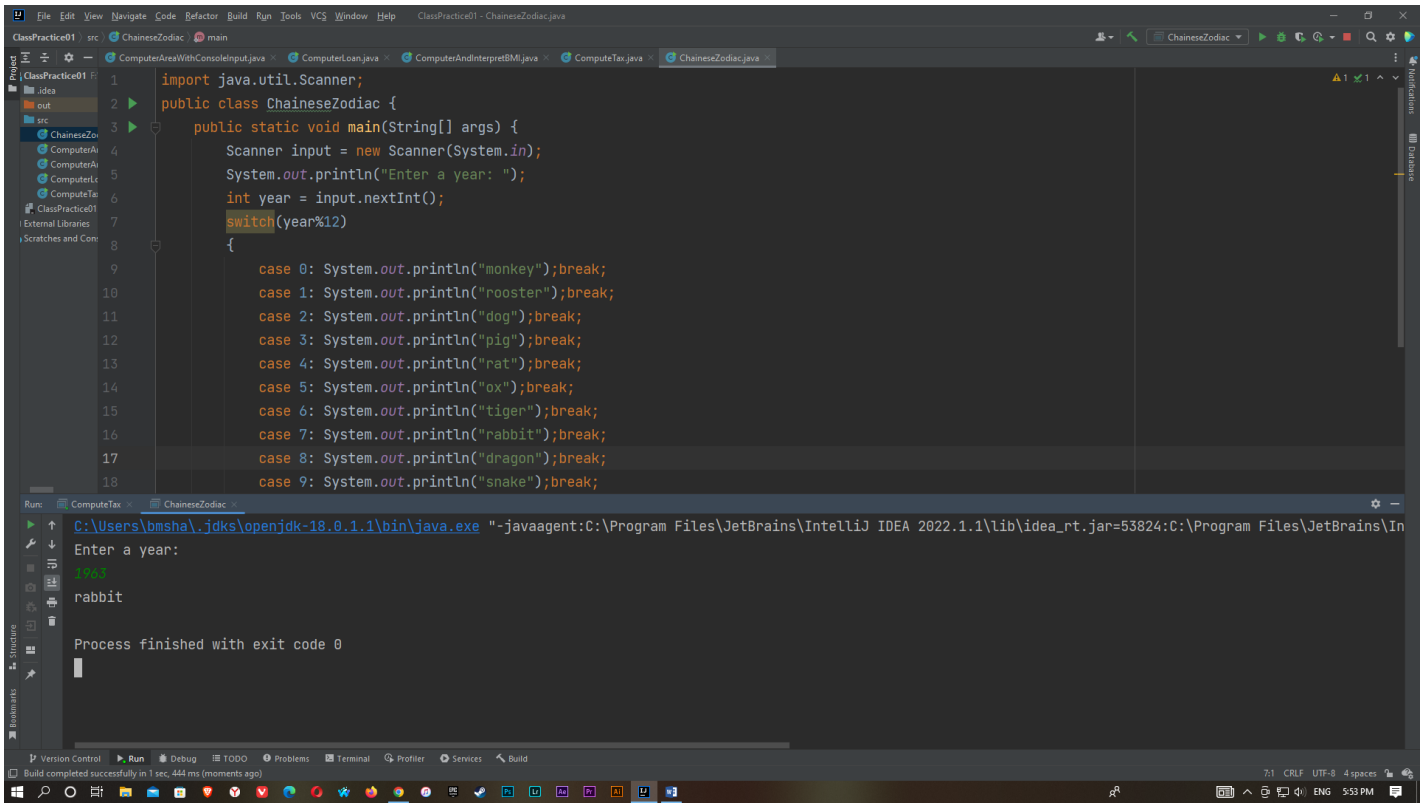
```
        System.out.println("Error: invalid status");
        System.exit(1);
      }
      System.out.println("Tax is "+(tax*100)/100.0 );
   }
}
```



5.

```
import java.util.Scanner;
public class ChaineseZodiac {
   public static void main(String[] args) {
      Scanner input = new Scanner(System.in);
      System.out.println("Enter a year: ");
      int year = input.nextInt();
      switch(year%12)
      {
         case 0: System.out.println("monkey");break;
```

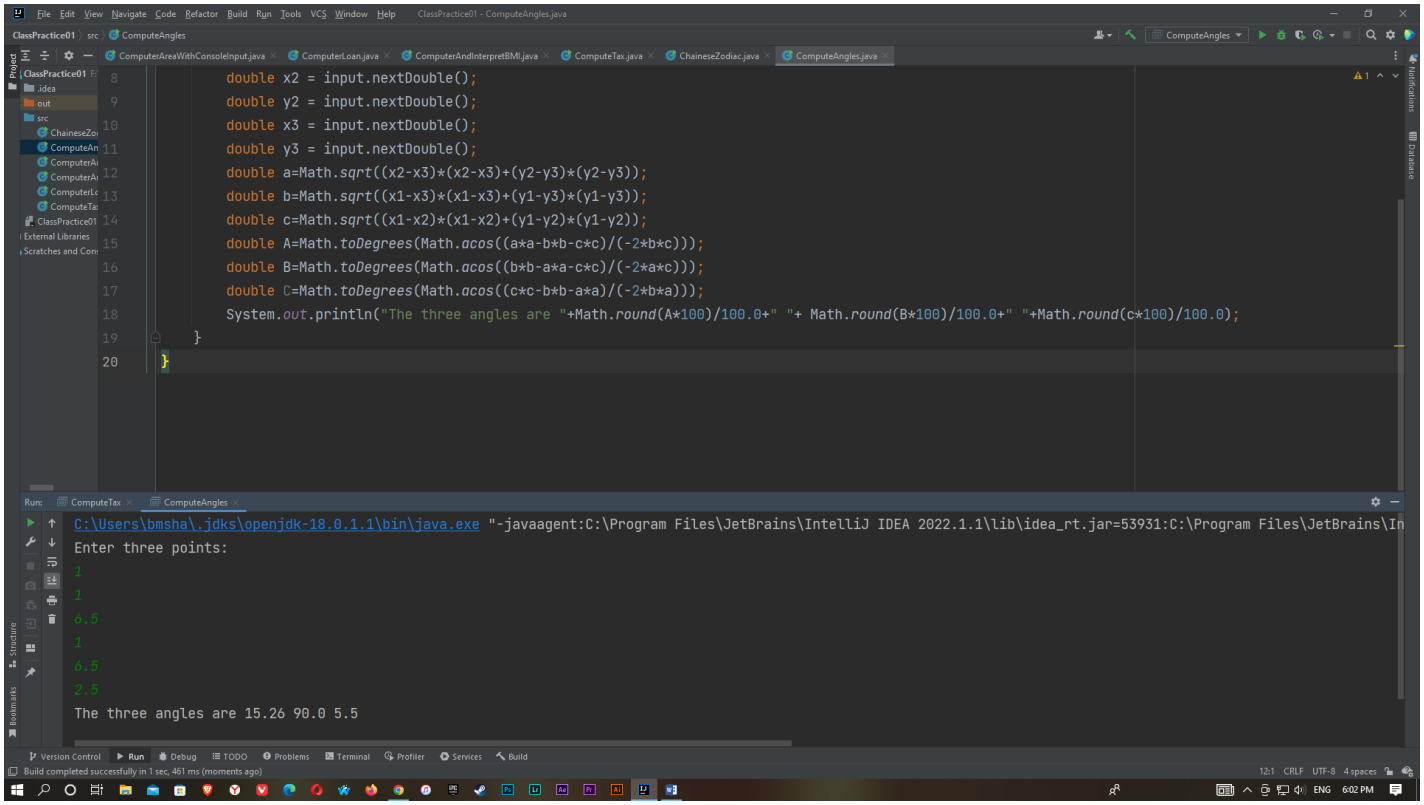
```
        case 1: System.out.println("rooster");break;
        case 2: System.out.println("dog");break;
        case 3: System.out.println("pig");break;
        case 4: System.out.println("rat");break;
        case 5: System.out.println("ox");break;
        case 6: System.out.println("tiger");break;
        case 7: System.out.println("rabbit");break;
        case 8: System.out.println("dragon");break;
        case 9: System.out.println("snake");break;
        case 10: System.out.println("horse");break;
        case 11: System.out.println("sheep");break;
    }
  }
}
```



6)

```
import java.util.Scanner;
```

```
public class ComputeAngles {
   public static void main(String[] args) {
      Scanner input = new Scanner(System.in);
      System.out.println("Enter three points: ");
      double x1 = input.nextDouble();
      double y1 = input.nextDouble();
      double x2 = input.nextDouble();
      double y2 = input.nextDouble();
      double x3 = input.nextDouble();
      double y3 = input.nextDouble();
      double a=Math.sqrt((x2-x3)*(x2-x3)+(y2-y3)*(y2-y3));
      double b=Math.sqrt((x1-x3)*(x1-x3)+(y1-y3)*(y1-y3));
      double c=Math.sqrt((x1-x2)*(x1-x2)+(y1-y2)*(y1-y2));
      double A=Math.toDegrees(Math.acos((a*a-b*b-c*c)/(-2*b*c)));
      double B=Math.toDegrees(Math.acos((b*b-a*a-c*c)/(-2*a*c)));
      double C=Math.toDegrees(Math.acos((c*c-b*b-a*a)/(-2*b*a)));
      System.out.println("The three angles are "+Math.round(A*100)/100.0+" "+ Math.round(B*100)/100.0+"
"+Math.round(c*100)/100.0);
   }
}
```



7)

```
import java.util.Scanner;

public class LotteryUsingString {

   public static void main(String[] args) {

      Scanner input = new Scanner(System.in);

      String lottery = "" + (int) (Math.random() * 10) + (int) (Math.random() * 10);

      System.out.println("Enter your lottary pick (two digits): ");

      String guess = input.nextLine();

      char lottarydigit1= lottery.charAt(0);

      char lottarydigit2= lottery.charAt(1);

      char guessdigit1= guess.charAt(0);

      char guessdigit2= guess.charAt(1);

      System.out.println("The lottary number is : " +lottery);

      if(guess.equals(lottery))

         System.out.println("Exact match: you win $10,000");

      else if(guessdigit2== lottarydigit1 && guessdigit1==lottarydigit2)
```

```
        System.out.println("Match all digits: you win $3,000");

    else if(guessdigit1 ==lottarydigit1 ||guessdigit1 ==lottarydigit2 || guessdigit2==lottarydigit1 || guessdigit2==
lottarydigit2)

        System.out.println("Match one digits: you win $1,000");

    else

        System.out.println("Sorry, no match.");

  }

}
```