

**Course Title:** CSE110

**Section:** 06

**Semester:** Summer 22

**Week 01 Class Practice**

**SUBMITTED TO**

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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:");

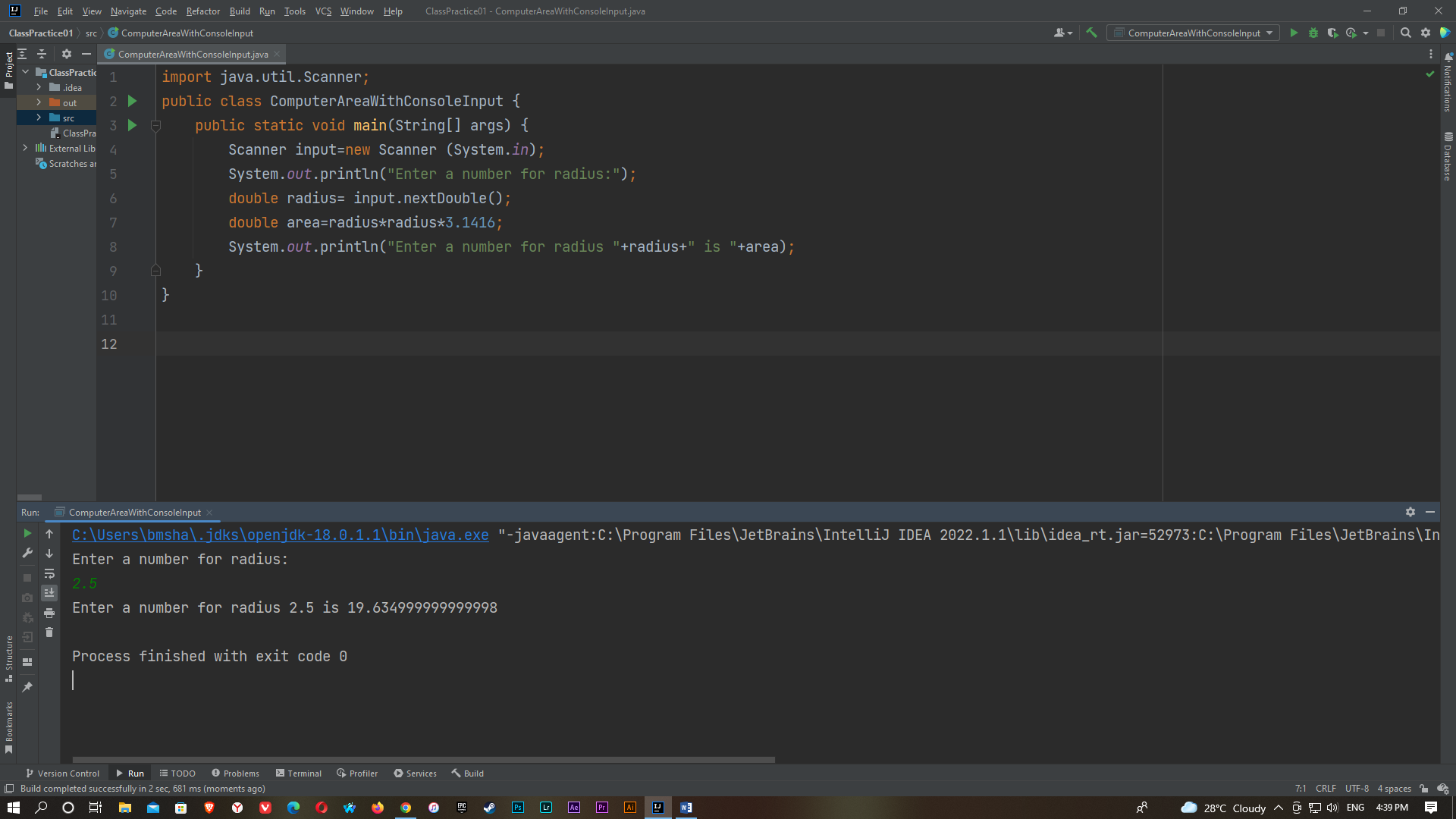
double radius= input.nextDouble();

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));

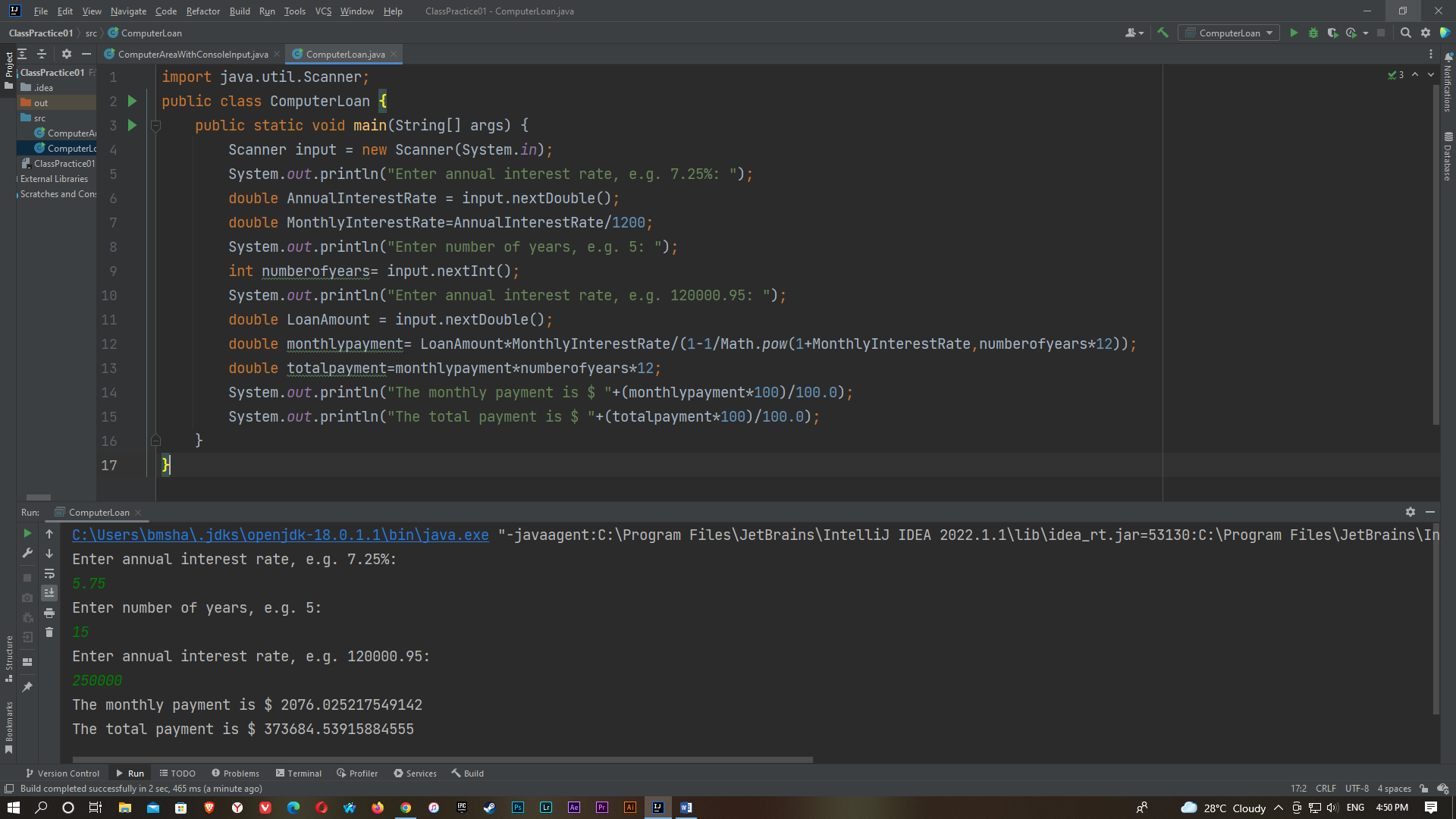
double totalpayment=monthlypayment\*numberofyears\*12;

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)

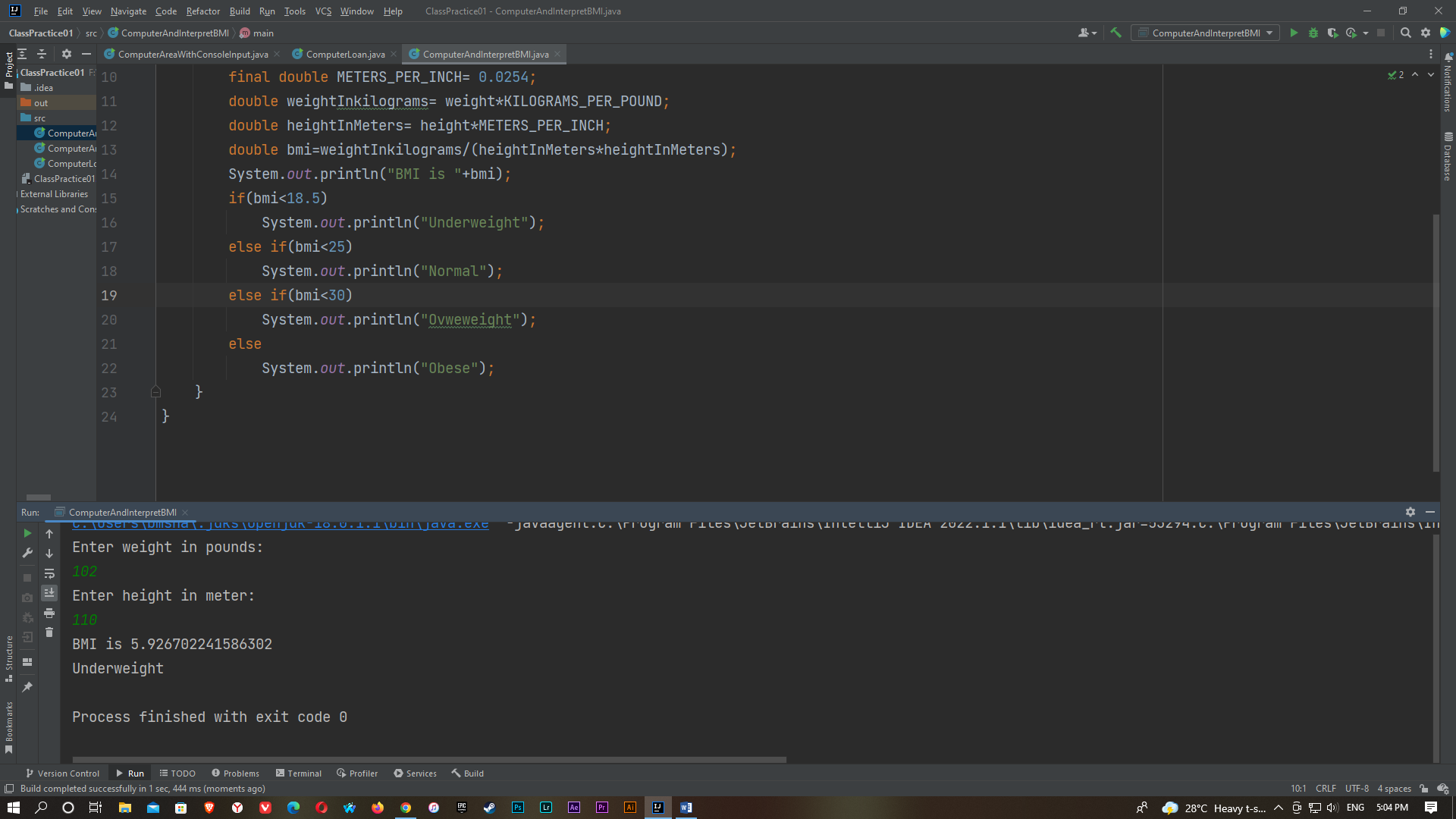
System.out.println("Ovweweight");

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");

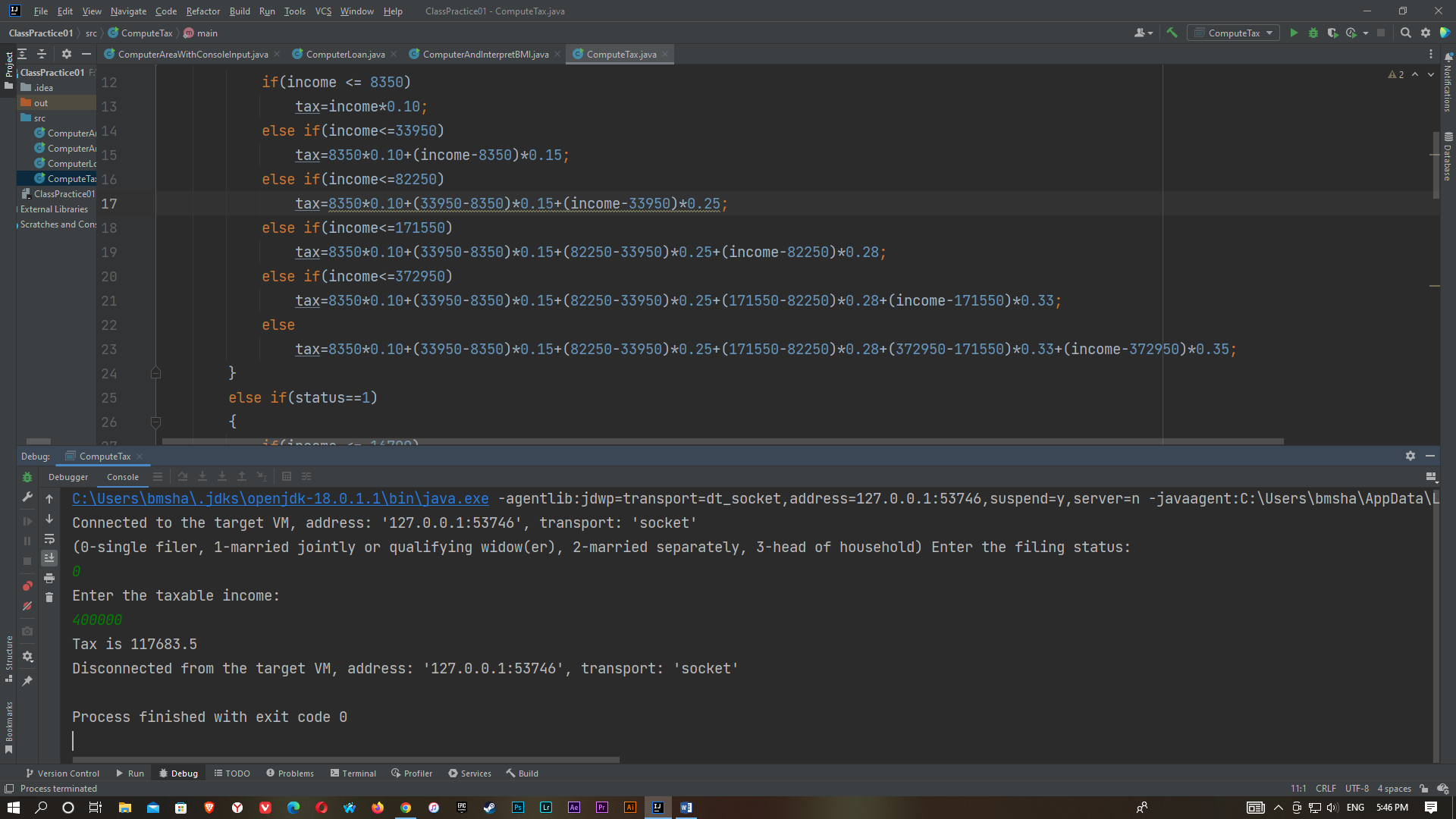
System.exit(1);

}

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;

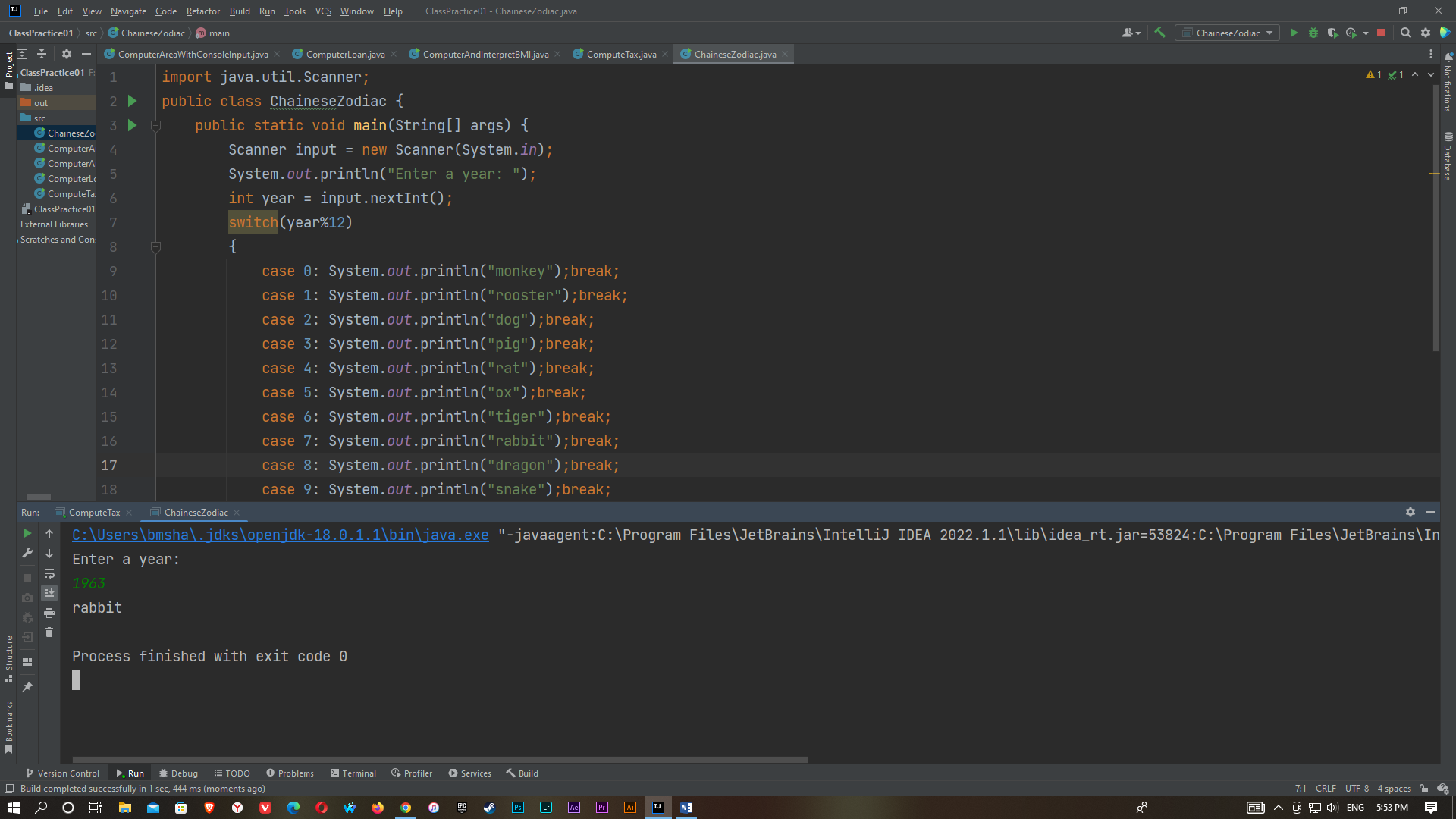
case 10: System.out.println("horse");break;

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)));

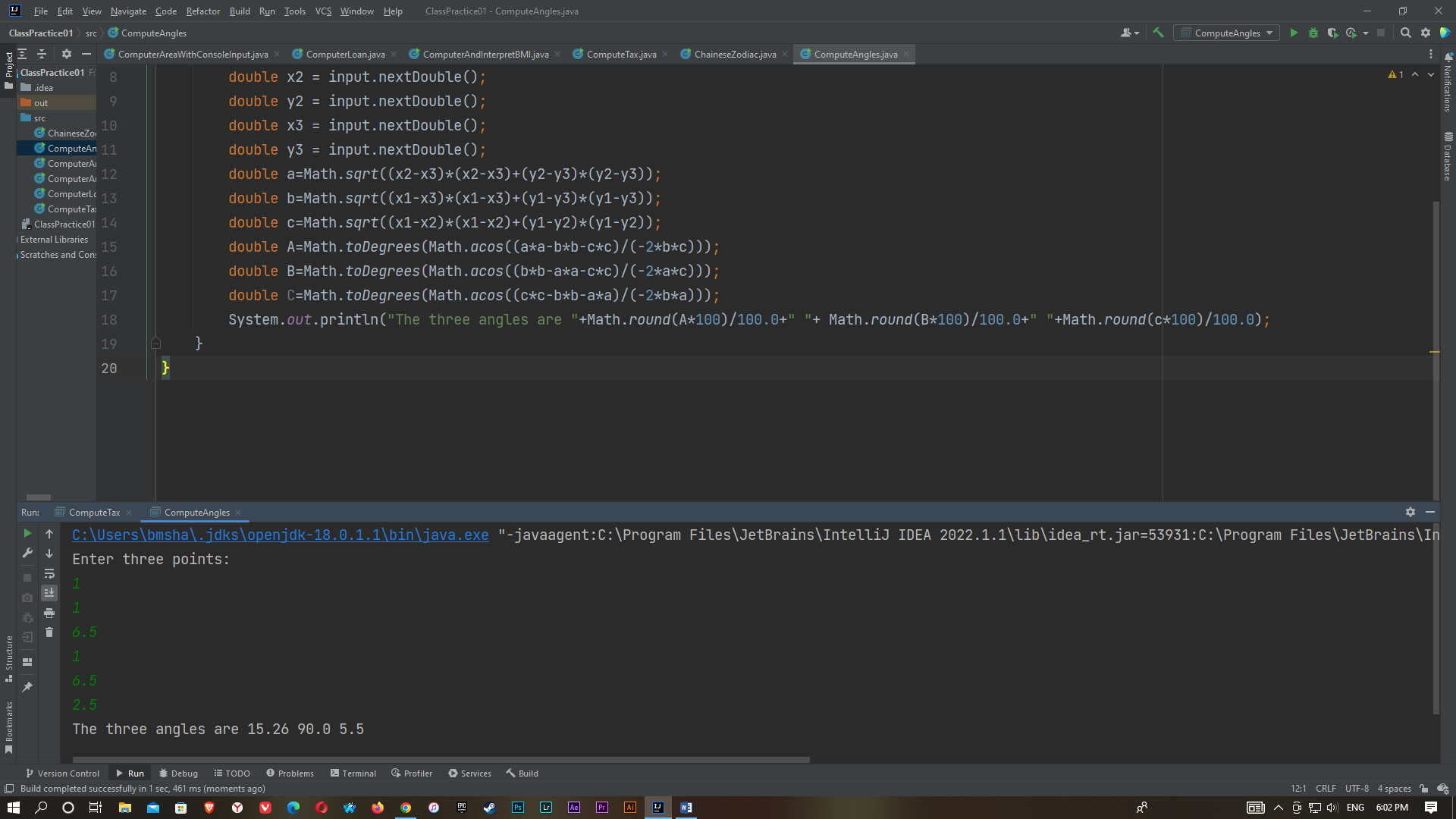
double B=Math.toDegrees(Math.acos((b\*b-a\*a-c\*c)/(-2\*a\*c)));

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.");

}

}

