Area of a Circle

```
package u2act1a1;

/**
 *
 * @author Kunwar Nir
 * 22-07-2019
 * Title: Area of a Circle
 * Purpose: To calculate the area of a circle with a radius of 15 cm
 */

public class AreaOfACircle {

    public static void main(String[] args) {

        //Declaring the variable for the radius of the circle
        int intRadius;
        //Declaring the variable for the area of the circle
        double dblArea;

        //Assigning the value for the radius of the circle
        intRadius = 15;
        //Assigning the value for the area of the circle
        dblArea = Math.PI * intRadius * intRadius;

        //Displaying the answer
        System.out.println("The area of a circle with a radius of 15 cm is: "
                + dblArea +  " cm squared");
    }
}
```

Area of Rectangle

```
package u2act1a1;

/**
 *
 *  @author Kunwar Nir
 * 22-07-2019
 * Title: Area of a Rectangle
 * Purpose: To calculate the area of a 5.7 by 4.8 rectangle
 */

public class AreaOfARectangle {

    public static void main(String[] args) {

        //Declaring the variable for the length of the rectangle
        double dblLength;
        //Declaring the variable for the width of the rectangle
        double dblWidth;

        //Assigning the value for the length
        dblLength = 5.7;
        //Assigning the value for the width
        dblWidth = 4.8;

        //Calculating the area of the rectangle
        double dblArea = dblLength * dblWidth;

        //Displaying the answer
        System.out.println("Length = " + dblLength + "\nWidth = " + dblWidth +
                "\nArea = " + dblArea);
    }

}
```

Net Pay

```
package u2act1a1;

/**
 *
 * @author Kunwar Nir
 * 22-07-2019
 * Title: Net Pay
 * Purpose: To calculate the net pay for someone who works 40 hours at $5.00
 * per hour with $2.00 deducted for insurance and pays 22% tax
 */
public class NetPay {

    public static void main(String [] arg){

    //Declaring the variable for number of hours worked
    int intHoursWorked;
    //Declaring the variable for wages
    double dblWages;
    //Declaring the variable for insurance
    double dblInsurance;
    //Declaring the variable for tax
    double dblTax;

    //Assigning the hours worked
    intHoursWorked = 40;
    //Assigning the the wages
    dblWages = 5.00;
    //Assigning the insurance
    dblInsurance = 2.00;
    //Assigning the taxes
    dblTax = 0.22;

    //Declaring the variable for the total net pay
    double dblNetPay;

    //Assigning the value for net pay using the formula n=(h*w-i)-t*(h*w-i)
    dblNetPay = (intHoursWorked * dblWages - dblInsurance) - dblTax *
            (intHoursWorked * dblWages - dblInsurance);

    //Displaying the data
    System.out.println("The net pay for someone who works 40 hours at $5.00 "
          + "per hour "+ "with $2.00 deducted for insurance and pays 22% "
          + "tax will be: $" + dblNetPay);
    }

}
```

Carpet

```
package u2act1a1;

/**
 *
 * @author Kunwar Nir
 * 22-07-2019
 * Title: Carpet
 * Purpose: To calculate the to carpet a 8.5 m by 6 m room at &19.95 per square meter
 */
public class Carpet {

    public static void main(String[] args) {

        //Declaring the variable for the length of the room
        double dblRoomLength;
        //Declaring the variable for the width of the room
        double dblRoomWidth;

        //Assigning the value for the length of the room
        dblRoomLength = 8.5;
        //Assigning the value for the width of the room
        dblRoomWidth = 6;

        //Declaring the variable for the total cost
        double dblCost;

        //Assigning the value for the cost
        dblCost = dblRoomLength * dblRoomWidth * 19.95;

        //Displaying the answer
        System.out.println("The cost to carpet a 8.5 m by 6 m room at &19.95 per square meter
is: $" + dblCost);
    }

}
```

Tic Tac Toe

```
package u2act1a1;

/**
 *
 * @author Kunwar Nir
 * 22-07-2019
 * Title: Tic Tac Toe
 * Purpose: To create a tic tac toe board displaying "X" in the middle
 */public class TicTacToe {

    public static void main(String[] args) {

        //Concatenating, formatting and displaying the data
        System.out.println(" \t | \t | \n \t | \t | \n \t | \t |"
                + "\n ------------------------"
                + "\n \t | \t | \n \t |   X   | \n \t | \t |"
                + "\n ------------------------"
                + "\n \t | \t | \n \t | \t | \n \t | \t |");
    }
}
```

Bill of Sale

```
package u2act1a1;

/**
 *
 * @author Kunwar Nir
 * 22-07-2019
 * Title: Bill of Sale
 * Purpose: To create a bill of sale for shirt purchased
 */
public class BillOfSale {

    public static void main(String[] args) {

        //Declaring the variable for the price of the shirt
        double dblShirtPrice;
        //Declaring the variable for the amount of money given to the cashier
        double dblAmountGiven;

        //Assigning the value for shirt price
        dblShirtPrice = 12.49;
        //Assigning value for the amount given
        dblAmountGiven = 20;

        //Declaring variable for the tax
        double dblTax;
        //Declaring variable for the total bill
        double dblTotalBill;

        //Assigning value for the tax
        dblTax = 0.13;
        //Assigning value for the total bill
        dblTotalBill = dblShirtPrice + (dblShirtPrice * dblTax);

        //Declaring variable for the change returned to the buyer
        double dblChange;

        //Assigning value for the change
        dblChange = dblAmountGiven - dblTotalBill;

        //Displaying the answer
        System.out.println("T-Shirt: $" + dblShirtPrice +  "\nHST: " + dblTax + "%" + "\nTotal: $"
+ dblTotalBill + "\nAmount Given: $"
                + dblAmountGiven + "\nChange Due: $" + dblChange);
    }

}
```

Change Calculator

```
package u2act1a1;
import java.util.Scanner;

/**
 *
 * @author Kunwar Nir
 * 22-07-2019
 * Title: Change Calculator
 * Purpose: To calculate the minimum amount of change required for a given amount of
cents
 */
public class ChangeCalculator {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        //Declaring the variable for the amount of change the user will enter
        int intChange;
        //Declaring variables for all the coins
        int intNumQuarters, intNumDimes, intNumNickels, intNumPennies;

        //Getting the user input
        System.out.print("Enter the amount of cents: ");
        //Assigning the user input as the number of cents
        intChange = input.nextInt();

//        if (intChange > 300){
//            System.out.println("Please enter an amount less than 300");
//        }
//
//        else {
        //Assigning the value for the number of quarters
        intNumQuarters = intChange / 25;
        //Assigning the value for the number of dimes
        intNumDimes = (intChange - (25 * intNumQuarters)) / 10;
        //Assigning the value for the number of nickels
        intNumNickels = (intChange - (25 * intNumQuarters)- (10 * intNumDimes))
                / 5;
        //Assigning the value for the number of pennies
        intNumPennies = (intChange - (25 * intNumQuarters)- (10 * intNumDimes) -
                (5 * intNumNickels));

        //Displaying the data
        System.out.println("\nThe minimum number of coins is: ");
        System.out.println("\t Quarters: " + intNumQuarters);
```

```
        System.out.println("\t Dimes: " + intNumDimes);
        System.out.println("\t Nickels: " + intNumNickels);
        System.out.println("\t Pennies: " + intNumPennies);
        //}
    }

}
```

Divide and Mode

```
package u2act1a1;
import java.util.Scanner;

/**
 *
 * @author Kunwar Nir
 * 22-07-2019
 * Title: Divide and Mode
 * Purpose: To divide and mode two given numbers
 */
public class DivideAndMode {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        //Declaring the variables for the users input numbers
        int intFirstNumber, intSecondNumber;

        //Asking the user for the first input number
        System.out.print("Please enter an integer: ");
        //Assigning that value for the first number
        intFirstNumber = input.nextInt();
        //Asking the user for a second number
        System.out.print("Please enter a second integer: ");
        //Assigning that value for the second number
        intSecondNumber = input.nextInt();

        //Performing all the operations and displaying the data
        System.out.println("\n" + intFirstNumber + " / " + intSecondNumber + " = "
                + intFirstNumber / intSecondNumber);
        System.out.println(intFirstNumber + " % " + intSecondNumber + " = "
                + intFirstNumber % intSecondNumber);
        System.out.println("\n" + intSecondNumber + " / " + intFirstNumber + " = "
                + intSecondNumber / intFirstNumber);
        System.out.println(intSecondNumber + " % " + intFirstNumber + " = "
                + intSecondNumber % intFirstNumber);
    }

}
```