1. Create a class called "Car" that has the following properties: make, model, year, color, and price. Include a constructor and getter and setter methods for each property.

https://codeshare.io/zyAMMb

```
44    public void setColor(String color) {
45        this.color = color;
46    }
47    // getters and setters for the price property
48    public double getPrice() {
49        return price;
50    }
51    public void setPrice(double price) {
52        this.price = price;
53    }
54    public static void main(String[] args) {
55        // Create a new Car object
56        car2 myCar = new car2("Volkswagen", "Vento", 2022, "Whi
57        // Set the color of the car
58        myCar.setColor("Blue");
59        // Print out the make, model, year, color, and price of
60        System.out.println("Make: " + myCar.getMake());
61        System.out.println("Model: " + myCar.getModel());
62        System.out.println("Year: " + myCar.getYear());
63        System.out.println("Color: " + myCar.getColor());
64        System.out.println("Price: rs " + myCar.getPrice());
65
66    }
67
68 }
69
```

Console × Problems Debug Shell
<terminated> car2 [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (02-Mar-2023, 5:35:32 pm – 5:3

```
Make: Volkswagen
Model: Vento
Year: 2022
Color: Blue
Price: rs 1600000.0
```

2.Create a class called "Student" that has the following properties: name, age, gender, grade, and GPA. Include a constructor and getter and setter methods for each property.

https://codeshare.io/vwjMV7

```java
49○        public void setGender(String gender) {
50             this.gender = gender;
51         }
52
53○        public void setGrade(int grade) {
54             this.grade = grade;
55         }
56
57○        public void setGpa(double gpa) {
58             this.gpa = gpa;
59         }
60○        public static void main(String[] args) {
61             // Your code for the main method goes here
62             // For example, you can create a new Student object an
63             student student = new student("John", 18, "Male", 12,
64             System.out.println("Name: " + student.getName());
65             System.out.println("Age: " + student.getAge());
66             System.out.println("Gender: " + student.getGender());
67             System.out.println("Grade: " + student.getGrade());
68             System.out.println("GPA: " + student.getGpa());
69
70     }|
71 }
72
73
74
```

Console × 🔧 Problems 🗖 Debug Shell

<terminated> car2 [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (02-Mar-2023, 5:50:05
```
Name: John
Age: 18
Gender: Male
Grade: 12
GPA: 3.8
```

3.Create a class called "Circle" that has the following properties: radius, diameter, and area. Include a constructor and methods to calculate the diameter and area of the circle.

https://codeshare.io/yo0MVe

```java
32         }
33
34○    public double getDiameter() {
35             return diameter;
36     }
37
38○    public double getArea() {
39             return area;
40     }
41
42
43○    public static void main(String[] args) {
44         circle myCircle = new circle(5);
45         System.out.println("Radius: " + myCircle.getRadius());
46         System.out.println("Diameter: " + myCircle.getDiameter());
47         System.out.println("Area: " + myCircle.getArea());
48
49         myCircle.setRadius(10);
50         System.out.println("New diameter: " + myCircle.getDiameter
51         System.out.println("New area: " + myCircle.getArea());
52
53     }
54
55     }
56
57
```

Console × 🔧 Problems 🗖 Debug Shell

<terminated> circle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (02-Mar-2023, 5:57:18
```
Radius: 5.0
Diameter: 10.0
Area: 78.53981633974483
New diameter: 20.0
New area: 314.1592653589793
```

4.Create a class called "Rectangle" that has the following properties: length, width, and area. Include a constructor and a method to calculate the area of the rectangle.

https://codeshare.io/pqkMPx

```java
 6        private int length;
 7        private int width;
 8        private int area;
 9
10        public Rectangle(int length, int width) {
11            this.length = length;
12            this.width = width;
13            this.area = length * width;
14        }
15
16        public int getArea() {
17            return this.area;
18        }
19
20
21    public static void main(String[] args) {
22        // TODO Auto-generated method stub
23        Rectangle Rectangle = new Rectangle(4, 5);
24        System.out.println("Area of rectangle: " + Rectangle.getAre
25
26
27    }
28
29 }
30
```

Console × Problems Debug Shell
<terminated> Rectangle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (02-Mar-2023, 6:01:
Area of rectangle: 20

5. Create a class called "BankAccount" that has the following properties: account number, account balance, account holder name, and account type. Include a constructor and methods to deposit and withdraw money from the account.
https://codeshare.io/gL9VR0

```java
74
75        // deposit $500 into the account
76        account.deposit(500.0);
77
78        // display updated account balance
79        System.out.println("New account balance: " + account.getAccountBalance()); // New
80
81        // withdraw $200 from the account
82        account.withdraw(200.0);
83
84        // display updated account balance
85        System.out.println("New account balance: " + account.getAccountBalance()); // New
86
87 }
88
89 }
90
```

Console × Problems Debug Shell
<terminated> Bankaccount [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (02-Mar-2023, 6:07:20 pm – 6:07:20 pm) [pi
BankAccount{accountNumber=123456, accountBalance=1000.0, accountHolderName='John Smith',
New account balance: 1500.0
New account balance: 1300.0

6. Create a class called "Person" that has the following properties: name, age, address, phone number, and email address. Include a constructor and getter and setter methods for each property.

https://codeshare.io/X8Eq1z

```
65              ", address='" + address + '\'' +
66              ", phoneNumber='" + phoneNumber + '\'' +
67              ", emailAddress='" + emailAddress + '\'' +
68              '}';
69      }
70
71
72●     public static void main(String[] args) {
73          // create a new Person object
74          Person Person = new Person("John Smith", 30, "123 Main St", "555-555-1234", "john.smith@example.com");
75
76          // display person information using toString method
77          System.out.println(Person.toString()); // Person{name='John Smith', age=30, address='123 Main St', phon
78
79          // update the person's phone number
80          Person.setPhoneNumber("555-555-5678");
81
82          // display updated person information
83          System.out.println(Person.toString()); // Person{name='John Smith', age=30, address='123 Main St', phon
84
85
86      }
87
88 }
89
```

```
■ Console ×  🔧 Problems  🐞 Debug Shell
<terminated> Person [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (02-Mar-2023, 6:13:31 pm – 6:13:32 pm) [pid: 2612]
Person{name='John Smith', age=30, address='123 Main St', phoneNumber='555-555-1234', emailAddress='john.smith@exampl
Person{name='John Smith', age=30, address='123 Main St', phoneNumber='555-555-5678', emailAddress='john.smith@exampl
```

7. Create a class called "Animal" that has the following properties: name, species, age, and weight. Include a constructor and getter and setter methods for each property.

https://codeshare.io/yo0Mjv

```
48              }
49
50
51
52
53●     public static void main(String[] args) {
54          Animal myPet = new Animal("Fluffy", "Cat", 5, 3.5);
55          System.out.println("My pet's name is " + myPet.getName());
56          System.out.println("My pet is a " + myPet.getSpecies());
57          System.out.println("My pet is " + myPet.getAge() + " years old");
58          System.out.println("My pet weighs " + myPet.getWeight() + " kg");
59
60          myPet.setAge(6);
61          myPet.setWeight(4.0);
62          System.out.println("My pet is now " + myPet.getAge() + " years old");
63          System.out.println("My pet now weighs " + myPet.getWeight() + " kg");
64
65
66
67      }
68
69 }
70
```

```
■ Console ×  🔧 Problems  🐞 Debug Shell
<terminated> Animal [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (02-Mar-2023, 8:06:54 pm – 8:06:54 pm) [pid: 17388]
My pet is a Cat
My pet is 5 years old
My pet weighs 3.5 kg
My pet is now 6 years old
My pet now weighs 4.0 kg
```

8. Create a class called "Triangle" that has the following properties: base, height, and area. Include a constructor and a method to calculate the area of the triangle.

https://codeshare.io/1Y8Q7j

```java
2
3  public class triangle {
4
5          private double base;
6          private double height;
7          private double area;
8
9          public triangle(double base, double height) {
10             this.base = base;
11             this.height = height;
12             this.area = 0.5 * base * height;
13         }
14
15         public double getArea() {
16             return this.area;
17         }
18
19
20         public static void main(String[] args) {
21             triangle triangle = new triangle(10, 5);
22             double area = triangle.getArea();
23             System.out.println("The area of the triangle is: " + area);
24         }
25
```

Console × Problems Debug Shell
<terminated> triangle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (02-Mar-2023, 8:14:42 pm – 8:14:42 pm) [pid: 18700]
The area of the triangle is: 25.0

9. Create a class called "Employee" that has the following properties: name, employee ID, department, job title, and salary. Include a constructor and getter and setter methods for each property.
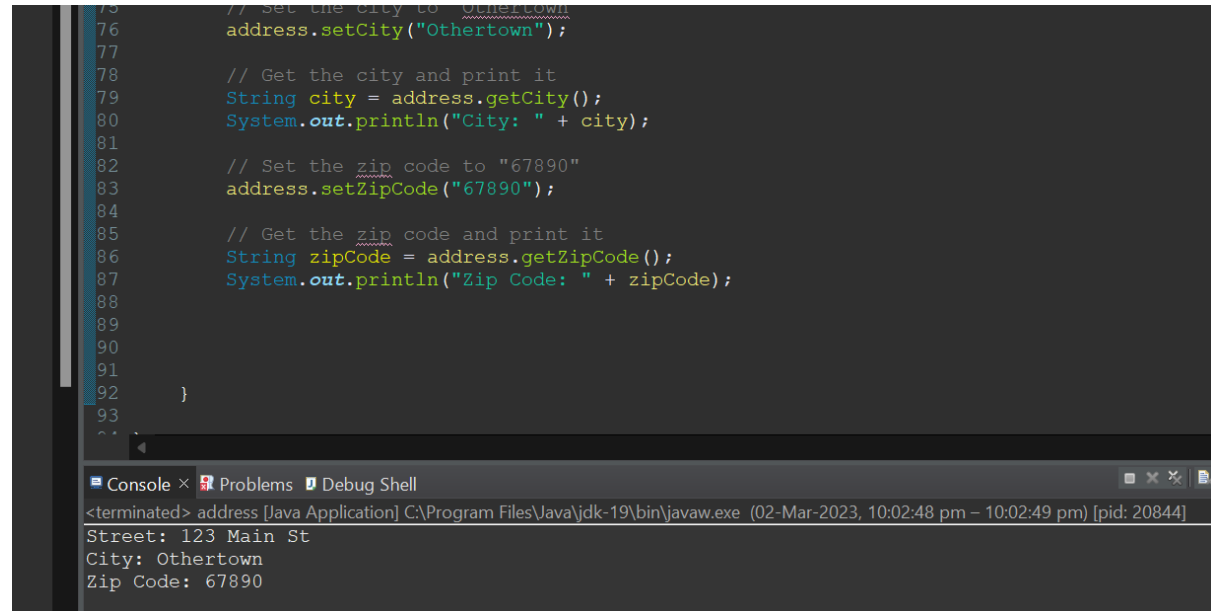
https://codeshare.io/vwjWAL

```java
65
66
67     public static void main(String[] args) {
68         // Create a new Employee object
69         employee emp = new employee("John Smith", 12345, "Sales", "Account Executive", 50000.0);
70
71         // Get the employee's name and print it
72         String name = emp.getName();
73         System.out.println("Employee name: " + name);
74
75         // Set the employee's department to "Marketing"
76         emp.setDepartment("Marketing");
77
78         // Get the employee's department and print it
79         String department = emp.getDepartment();
80         System.out.println("Employee department: " + department);
81
82         // Set the employee's salary to $60,000
83         emp.setSalary(60000.0);
84
```

Console × Problems Debug Shell
<terminated> employee [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (02-Mar-2023, 9:09:37 pm – 9:09:38 pm) [pid: 18464]
Employee name: John Smith
Employee department: Marketing
Employee salary: $60000.0

10. Create a class called "Address" that has the following properties: street, city, state, zip code, and country. Include a constructor and getter and setter methods for each property.

https://codeshare.io/X8EeBY

```
75        // Set the city to "Othertown"
76        address.setCity("Othertown");
77
78        // Get the city and print it
79        String city = address.getCity();
80        System.out.println("City: " + city);
81
82        // Set the zip code to "67890"
83        address.setZipCode("67890");
84
85        // Get the zip code and print it
86        String zipCode = address.getZipCode();
87        System.out.println("Zip Code: " + zipCode);
88
89
90
91
92    }
93
```

Console × ⚡ Problems ⛶ Debug Shell

<terminated> address [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (02-Mar-2023, 10:02:48 pm – 10:02:49 pm) [pid: 20844]

```
Street: 123 Main St
City: Othertown
Zip Code: 67890
```