

Assignment – 2

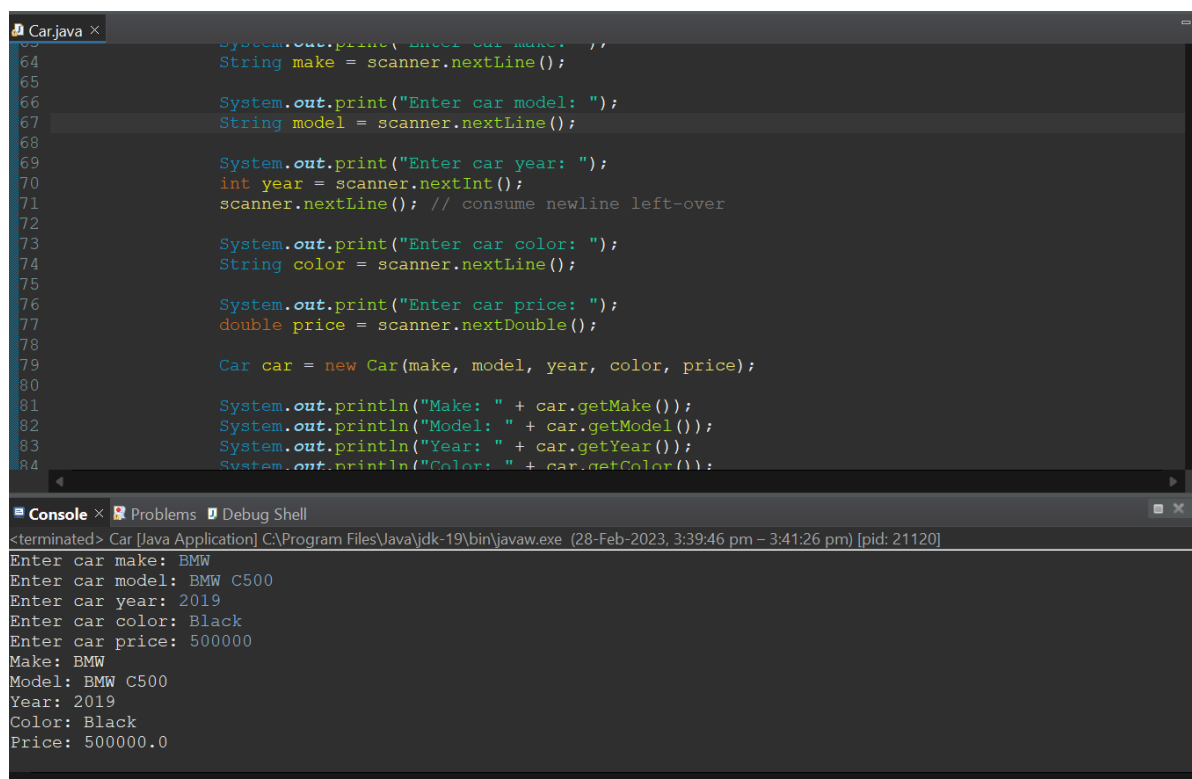
Vishwas Cp

Engineering Intern

Tecnotree Mysore

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/eV6xlb>

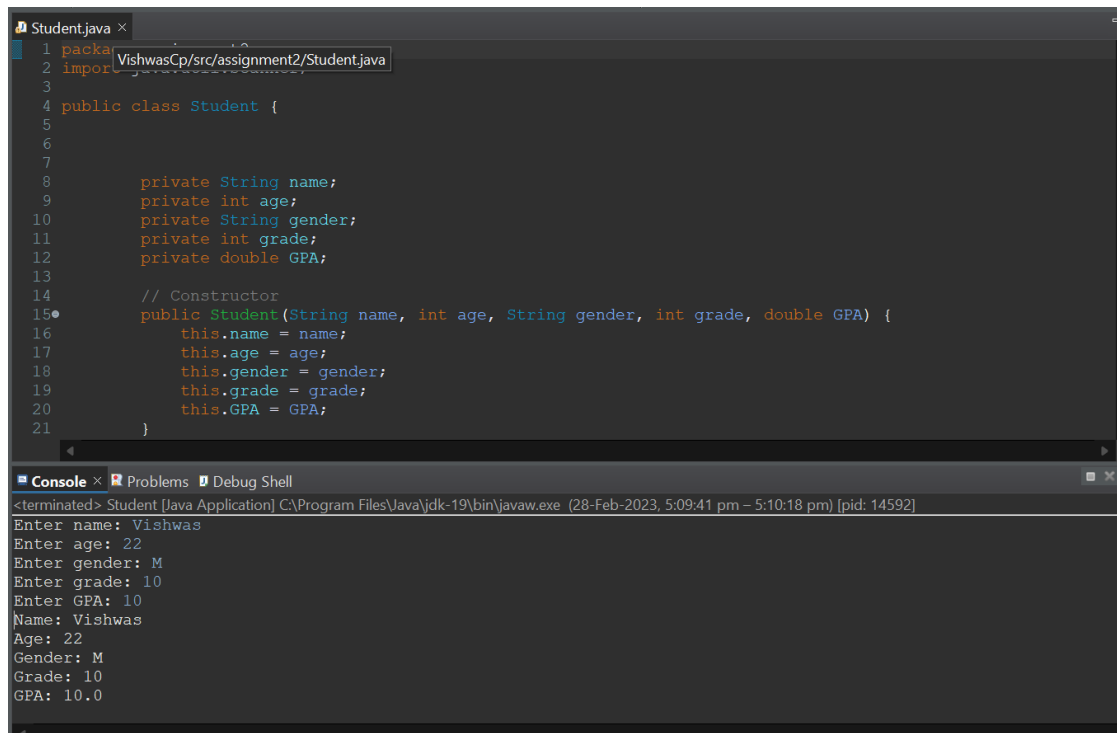


```
Car.java x
64      System.out.print("Enter car make: ");
65      String make = scanner.nextLine();
66
67      System.out.print("Enter car model: ");
68      String model = scanner.nextLine();
69
70      System.out.print("Enter car year: ");
71      int year = scanner.nextInt();
72      scanner.nextLine(); // consume newline left-over
73
74      System.out.print("Enter car color: ");
75      String color = scanner.nextLine();
76
77      System.out.print("Enter car price: ");
78      double price = scanner.nextDouble();
79
80      Car car = new Car(make, model, year, color, price);
81
82      System.out.println("Make: " + car.getMake());
83      System.out.println("Model: " + car.getModel());
84      System.out.println("Year: " + car.getYear());
85      System.out.println("Color: " + car.getColor());

Console x Problems Debug Shell
<terminated> Car [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 3:39:46 pm – 3:41:26 pm) [pid: 21120]
Enter car make: BMW
Enter car model: BMW C500
Enter car year: 2019
Enter car color: Black
Enter car price: 500000
Make: BMW
Model: BMW C500
Year: 2019
Color: Black
Price: 500000.0
```

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.

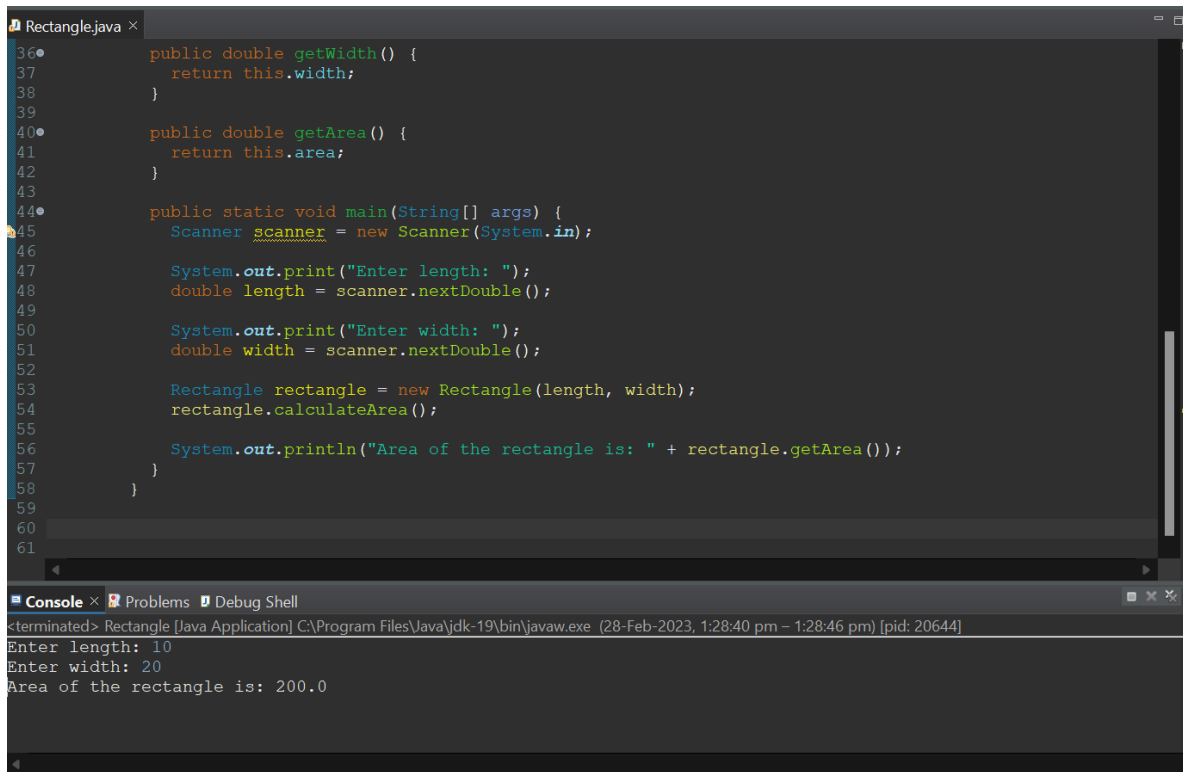
<https://codeshare.io/JbMKZX>



```
Student.java x
1 package assignment2;
2 import java.util.Scanner;
3
4 public class Student {
5
6
7
8     private String name;
9     private int age;
10    private String gender;
11    private int grade;
12    private double GPA;
13
14    // Constructor
15    public Student(String name, int age, String gender, int grade, double GPA) {
16        this.name = name;
17        this.age = age;
18        this.gender = gender;
19        this.grade = grade;
20        this.GPA = GPA;
21    }
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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/oQ3xRb>

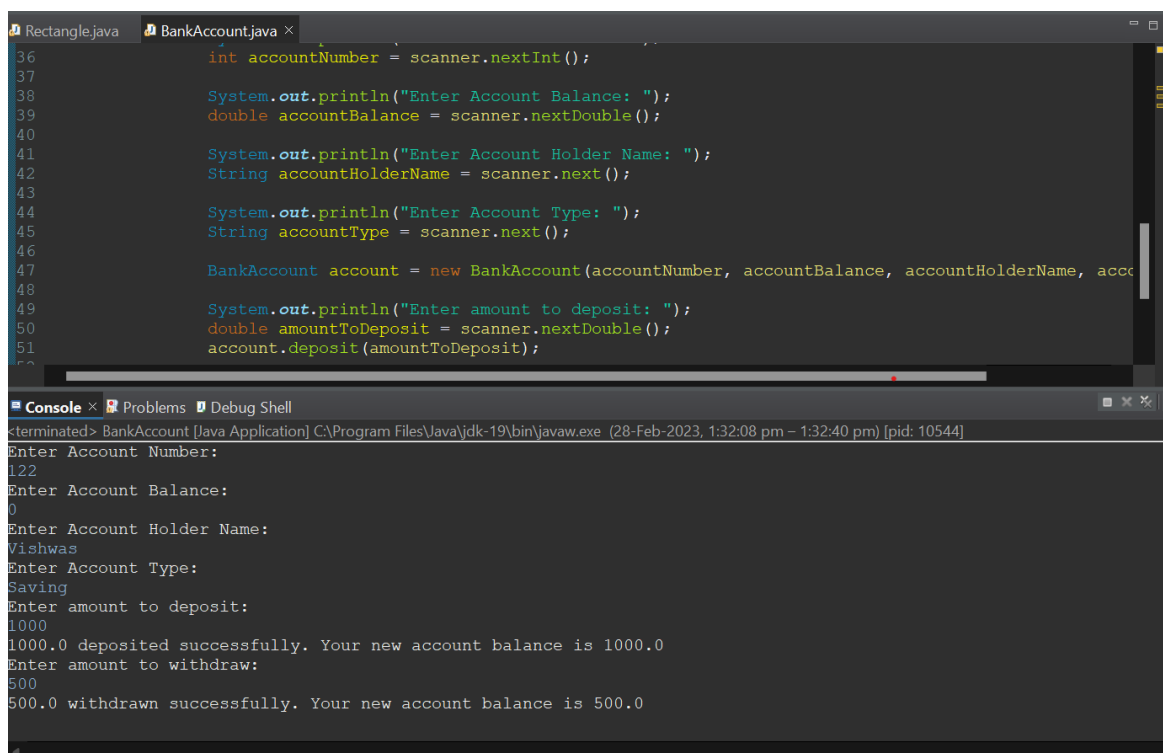


```
Rectangle.java x
36 public double getWidth() {
37     return this.width;
38 }
39
40 public double getArea() {
41     return this.area;
42 }
43
44 public static void main(String[] args) {
45     Scanner scanner = new Scanner(System.in);
46
47     System.out.print("Enter length: ");
48     double length = scanner.nextDouble();
49
50     System.out.print("Enter width: ");
51     double width = scanner.nextDouble();
52
53     Rectangle rectangle = new Rectangle(length, width);
54     rectangle.calculateArea();
55
56     System.out.println("Area of the rectangle is: " + rectangle.getArea());
57 }
58
59
60
61
```

```
Console x Problems Debug Shell
terminated> Rectangle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 1:28:40 pm - 1:28:46 pm) [pid: 20644]
Enter length: 10
Enter width: 20
Area of the rectangle is: 200.0
```

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/yo0Yen>

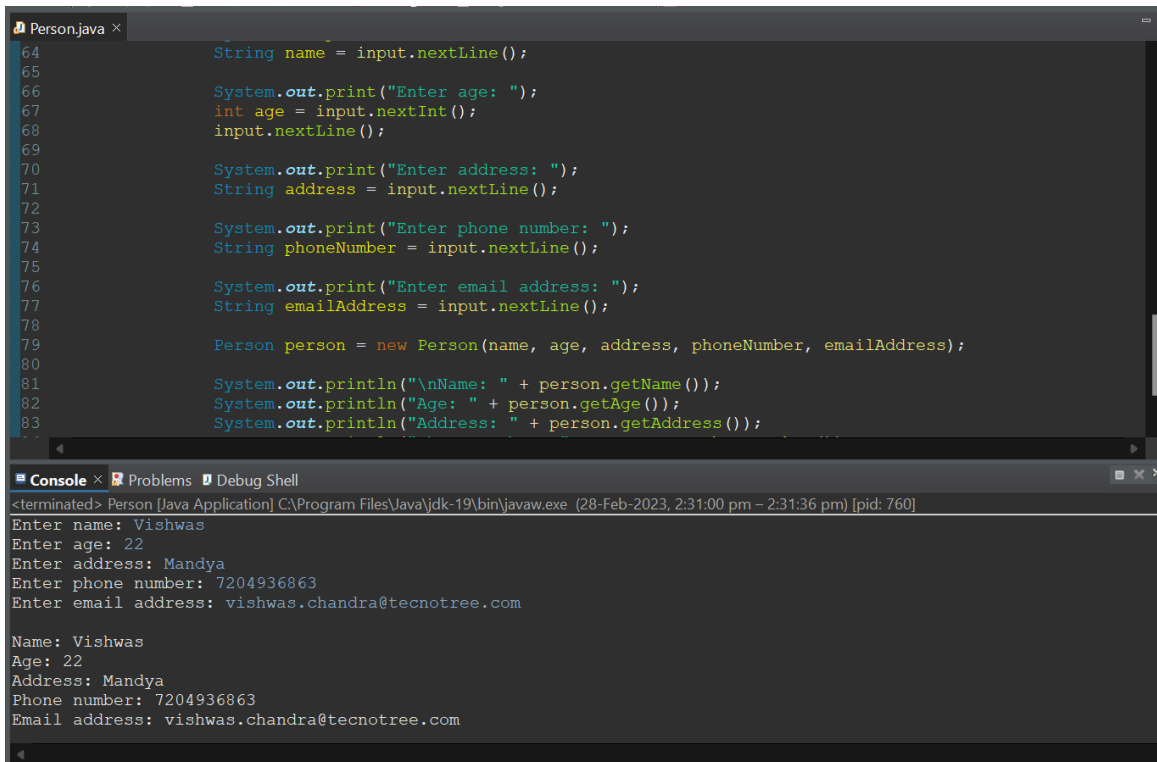


```
Rectangle.java x BankAccount.java x
36 int accountNumber = scanner.nextInt();
37
38 System.out.println("Enter Account Balance: ");
39 double accountBalance = scanner.nextDouble();
40
41 System.out.println("Enter Account Holder Name: ");
42 String accountHolderName = scanner.next();
43
44 System.out.println("Enter Account Type: ");
45 String accountType = scanner.next();
46
47 BankAccount account = new BankAccount(accountNumber, accountBalance, accountHolderName, accountType);
48
49 System.out.println("Enter amount to deposit: ");
50 double amountToDeposit = scanner.nextDouble();
51 account.deposit(amountToDeposit);
52
```

```
Console x Problems Debug Shell
terminated> BankAccount [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 1:32:08 pm - 1:32:40 pm) [pid: 10544]
Enter Account Number:
122
Enter Account Balance:
0
Enter Account Holder Name:
Vishwas
Enter Account Type:
Saving
Enter amount to deposit:
1000
1000.0 deposited successfully. Your new account balance is 1000.0
Enter amount to withdraw:
500
500.0 withdrawn successfully. Your new account balance is 500.0
```

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.

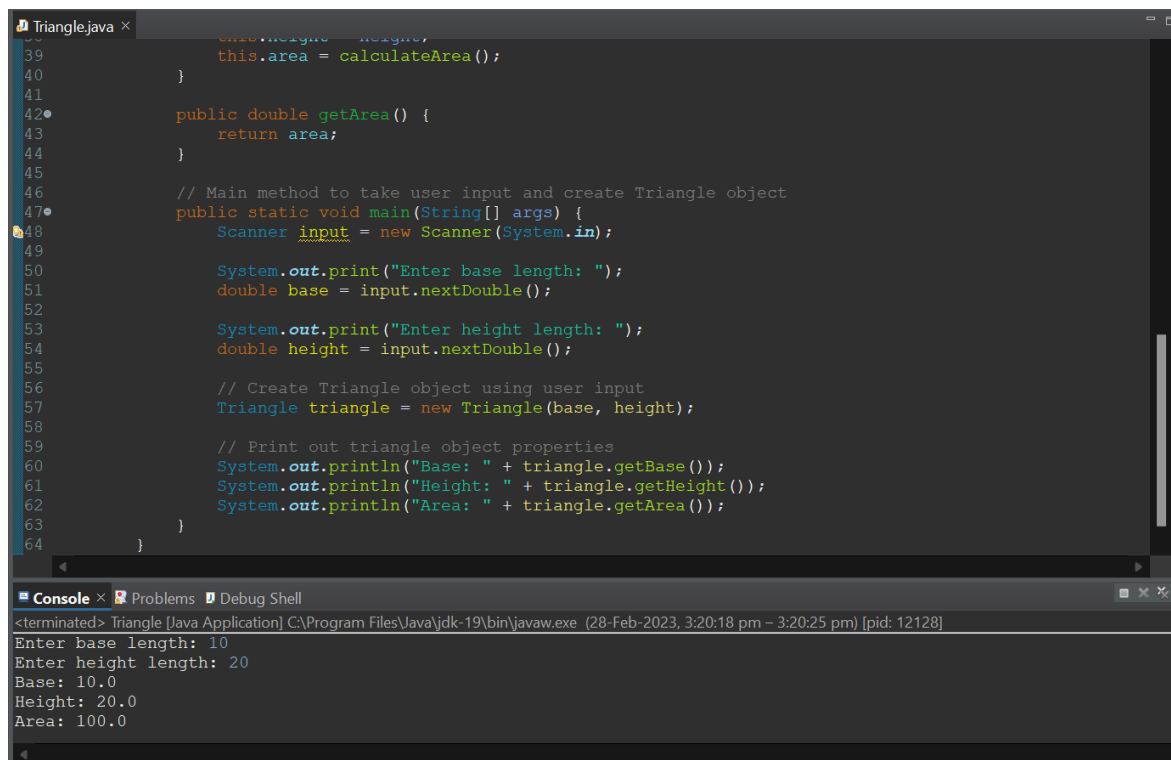
<https://codeshare.io/Ad1Jq8>



```
Person.java x
64         String name = input.nextLine();
65
66         System.out.print("Enter age: ");
67         int age = input.nextInt();
68         input.nextLine();
69
70         System.out.print("Enter address: ");
71         String address = input.nextLine();
72
73         System.out.print("Enter phone number: ");
74         String phoneNumber = input.nextLine();
75
76         System.out.print("Enter email address: ");
77         String emailAddress = input.nextLine();
78
79         Person person = new Person(name, age, address, phoneNumber, emailAddress);
80
81         System.out.println("\nName: " + person.getName());
82         System.out.println("Age: " + person.getAge());
83         System.out.println("Address: " + person.getAddress());
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```

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/xv4Y9R>



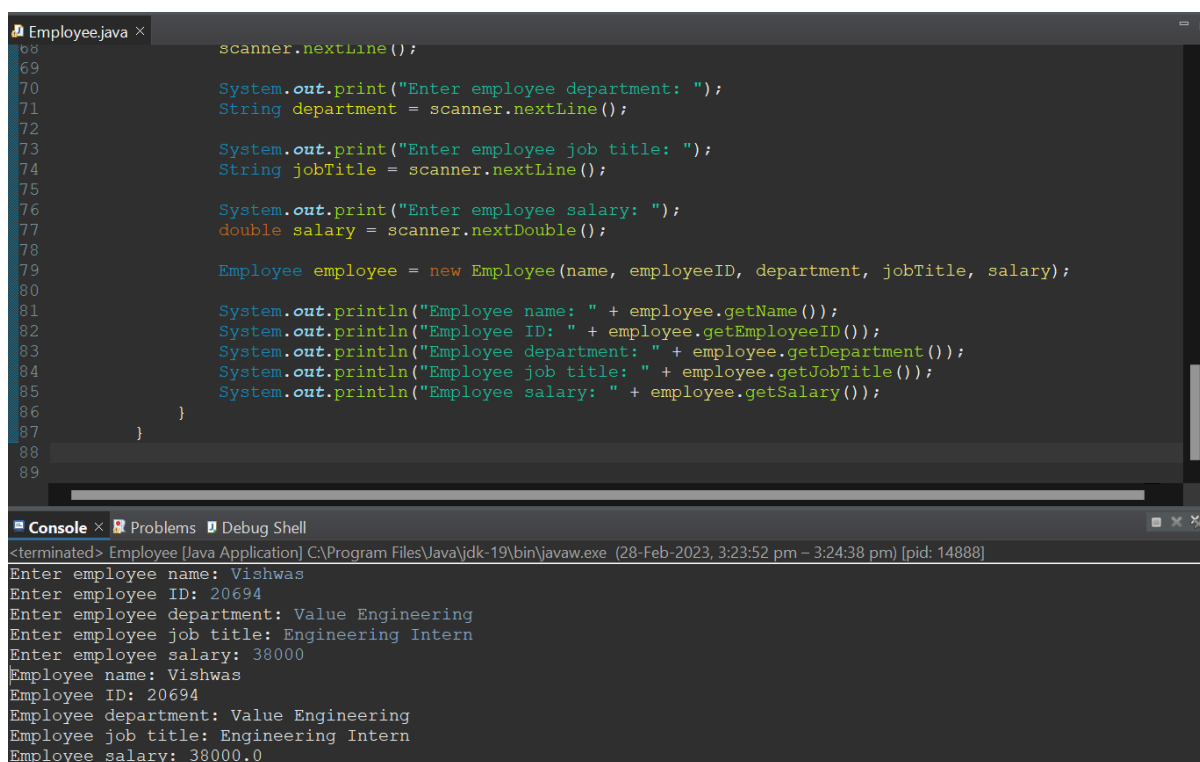
```
Triangle.java
39         this.height = height;
40         this.area = calculateArea();
41     }
42     public double getArea() {
43         return area;
44     }
45
46     // Main method to take user input and create Triangle object
47     public static void main(String[] args) {
48         Scanner input = new Scanner(System.in);
49
50         System.out.print("Enter base length: ");
51         double base = input.nextDouble();
52
53         System.out.print("Enter height length: ");
54         double height = input.nextDouble();
55
56         // Create Triangle object using user input
57         Triangle triangle = new Triangle(base, height);
58
59         // Print out triangle object properties
60         System.out.println("Base: " + triangle.getBase());
61         System.out.println("Height: " + triangle.getHeight());
62         System.out.println("Area: " + triangle.getArea());
63     }
64 }
```

Console

```
<terminated> Triangle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 3:20:18 pm - 3:20:25 pm) [pid: 12128]
Enter base length: 10
Enter height length: 20
Base: 10.0
Height: 20.0
Area: 100.0
```

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/pqkxp4>



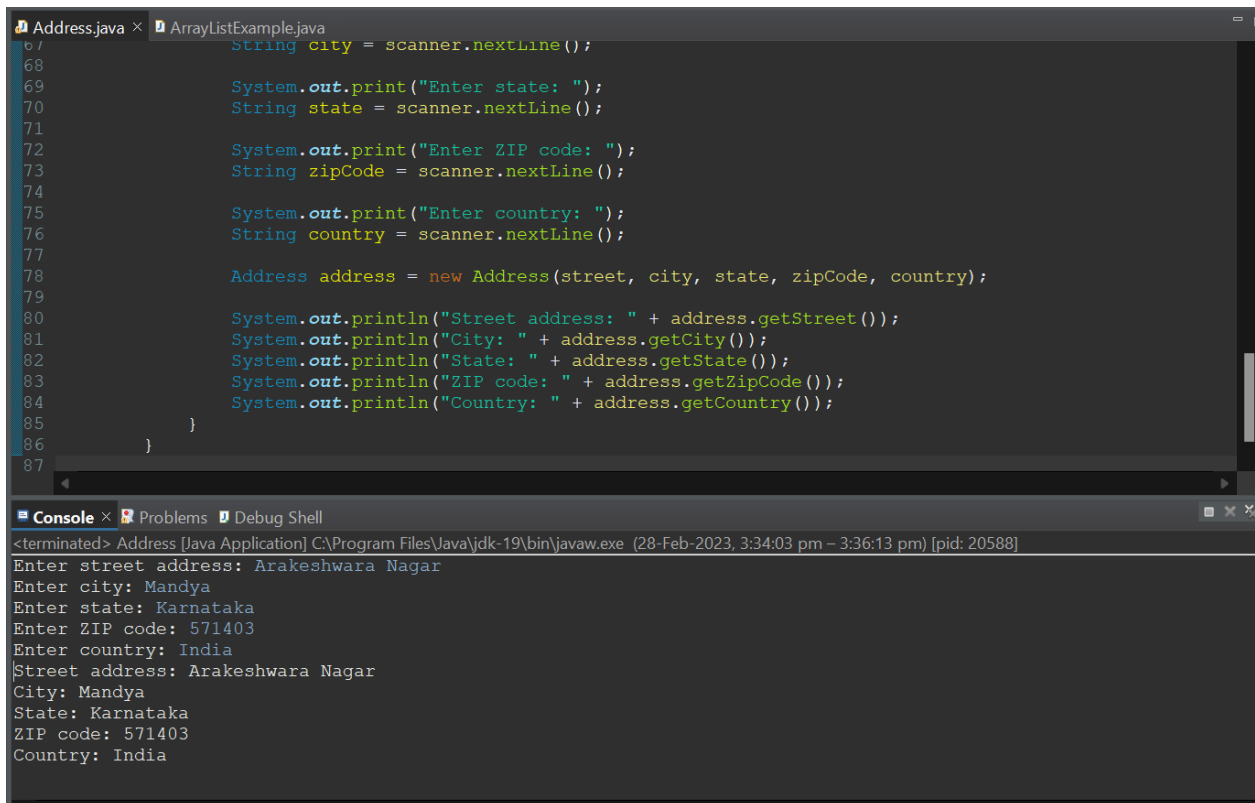
```
Employee.java
68         scanner.nextLine();
69
70         System.out.print("Enter employee department: ");
71         String department = scanner.nextLine();
72
73         System.out.print("Enter employee job title: ");
74         String jobTitle = scanner.nextLine();
75
76         System.out.print("Enter employee salary: ");
77         double salary = scanner.nextDouble();
78
79         Employee employee = new Employee(name, employeeID, department, jobTitle, salary);
80
81         System.out.println("Employee name: " + employee.getName());
82         System.out.println("Employee ID: " + employee.getEmployeeID());
83         System.out.println("Employee department: " + employee.getDepartment());
84         System.out.println("Employee job title: " + employee.getJobTitle());
85         System.out.println("Employee salary: " + employee.getSalary());
86     }
87 }
88
89 }
```

Console

```
<terminated> Employee [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 3:23:52 pm - 3:24:38 pm) [pid: 14888]
Enter employee name: Vishwas
Enter employee ID: 20694
Enter employee department: Value Engineering
Enter employee job title: Engineering Intern
Enter employee salary: 38000
Employee name: Vishwas
Employee ID: 20694
Employee department: Value Engineering
Employee job title: Engineering Intern
Employee salary: 38000.0
```

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/BA7XEx>



The screenshot shows an IDE with two tabs: 'Address.java' and 'ArrayListExample.java'. The 'Address.java' tab is active, displaying the following code:

```
67     String city = scanner.nextLine();
68
69     System.out.print("Enter state: ");
70     String state = scanner.nextLine();
71
72     System.out.print("Enter ZIP code: ");
73     String zipCode = scanner.nextLine();
74
75     System.out.print("Enter country: ");
76     String country = scanner.nextLine();
77
78     Address address = new Address(street, city, state, zipCode, country);
79
80     System.out.println("Street address: " + address.getStreet());
81     System.out.println("City: " + address.getCity());
82     System.out.println("State: " + address.getState());
83     System.out.println("ZIP code: " + address.getZipCode());
84     System.out.println("Country: " + address.getCountry());
85 }
86
87
```

Below the code editor is a 'Console' window showing the execution output:

```
<terminated> Address [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 3:34:03 pm - 3:36:13 pm) [pid: 20588]
Enter street address: Arakeshwara Nagar
Enter city: Mandya
Enter state: Karnataka
Enter ZIP code: 571403
Enter country: India
Street address: Arakeshwara Nagar
City: Mandya
State: Karnataka
ZIP code: 571403
Country: India
```