Assignment – 2

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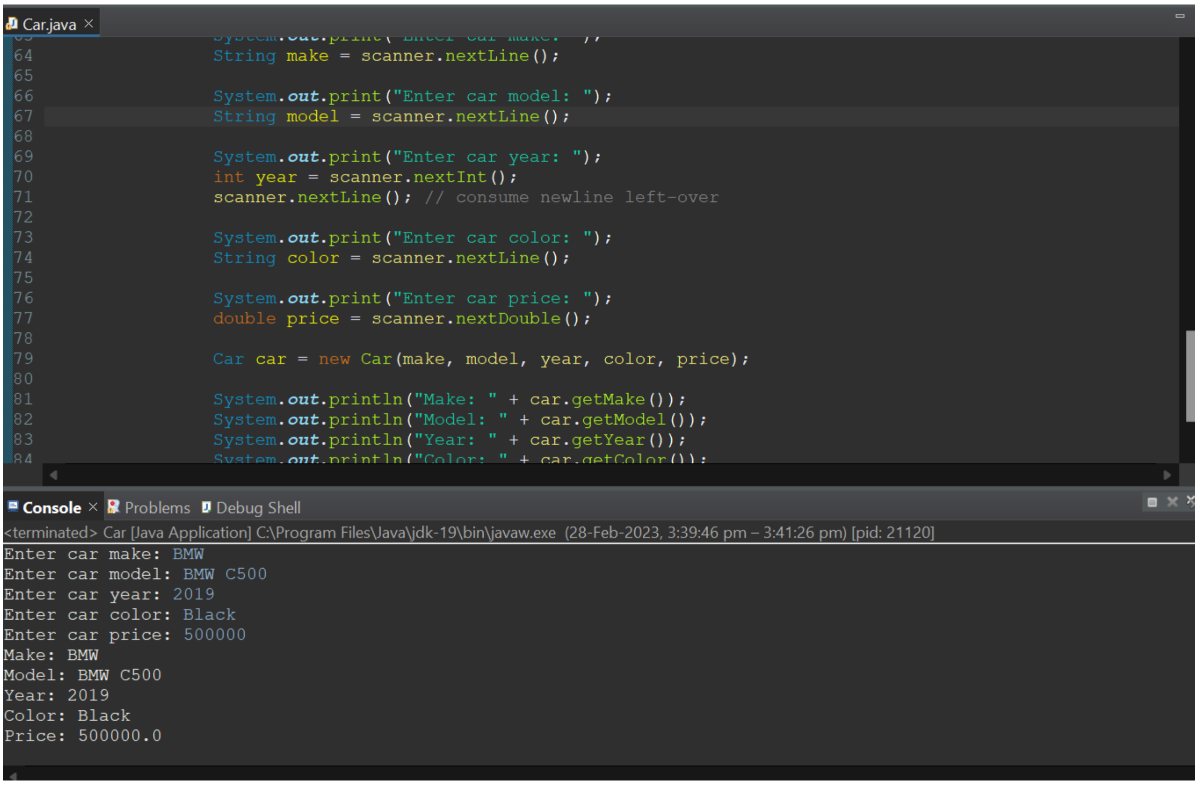
1. Create a class called "Car" that has the following properties: make, model, year, color, and price. Include a constructor and getter and setter methods for each property.

   https://codeshare.io/eV6xlb



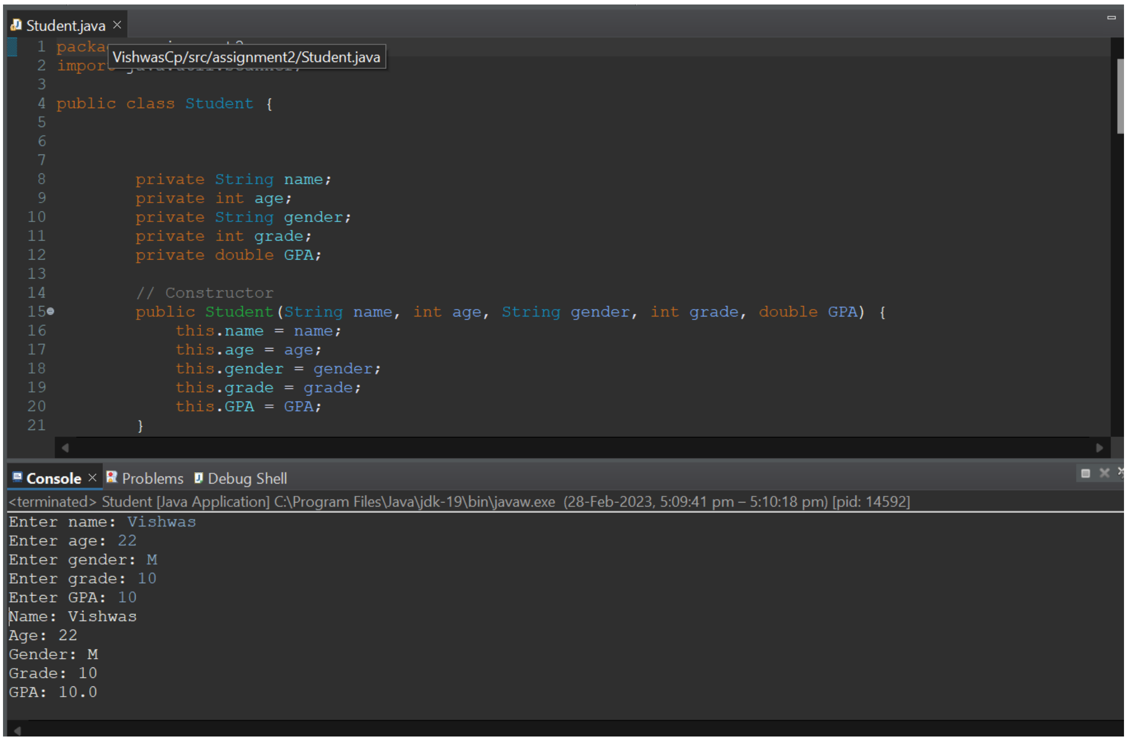
```java
                System.out.print("Enter car make: ");
                String make = scanner.nextLine();

                System.out.print("Enter car model: ");
                String model = scanner.nextLine();

                System.out.print("Enter car year: ");
                int year = scanner.nextInt();
                scanner.nextLine(); // consume newline left-over

                System.out.print("Enter car color: ");
                String color = scanner.nextLine();

                System.out.print("Enter car price: ");
                double price = scanner.nextDouble();

                Car car = new Car(make, model, year, color, price);

                System.out.println("Make: " + car.getMake());
                System.out.println("Model: " + car.getModel());
                System.out.println("Year: " + car.getYear());
                System.out.println("Color: " + car.getColor());
```

<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



```java
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impor

public class Student {



        private String name;
        private int age;
        private String gender;
        private int grade;
        private double GPA;

        // Constructor
        public Student(String name, int age, String gender, int grade, double GPA) {
            this.name = name;
            this.age = age;
            this.gender = gender;
            this.grade = grade;
            this.GPA = GPA;
        }
```
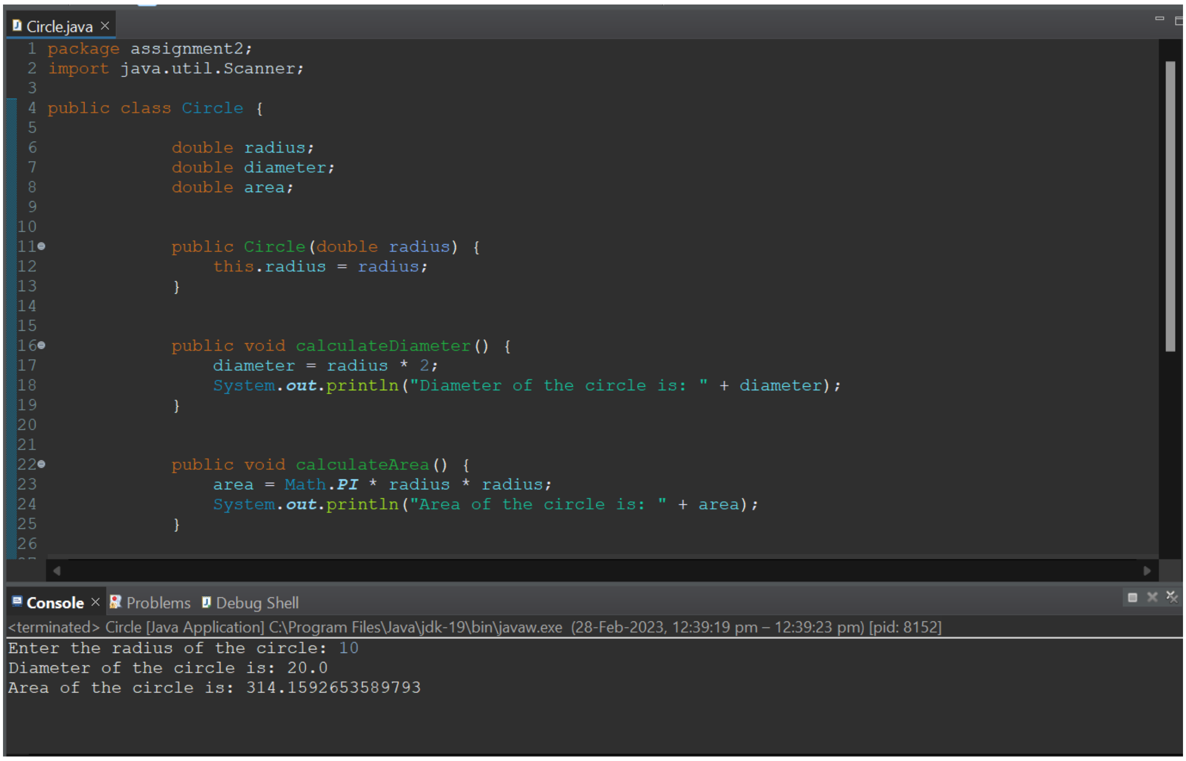

```
<terminated> Student [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (28-Feb-2023, 5:09:41 pm – 5:10:18 pm) [pid: 14592]
Enter name: Vishwas
Enter age: 22
Enter gender: M
Enter grade: 10
Enter GPA: 10
Name: Vishwas
Age: 22
Gender: M
Grade: 10
GPA: 10.0
```

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/eV6xll

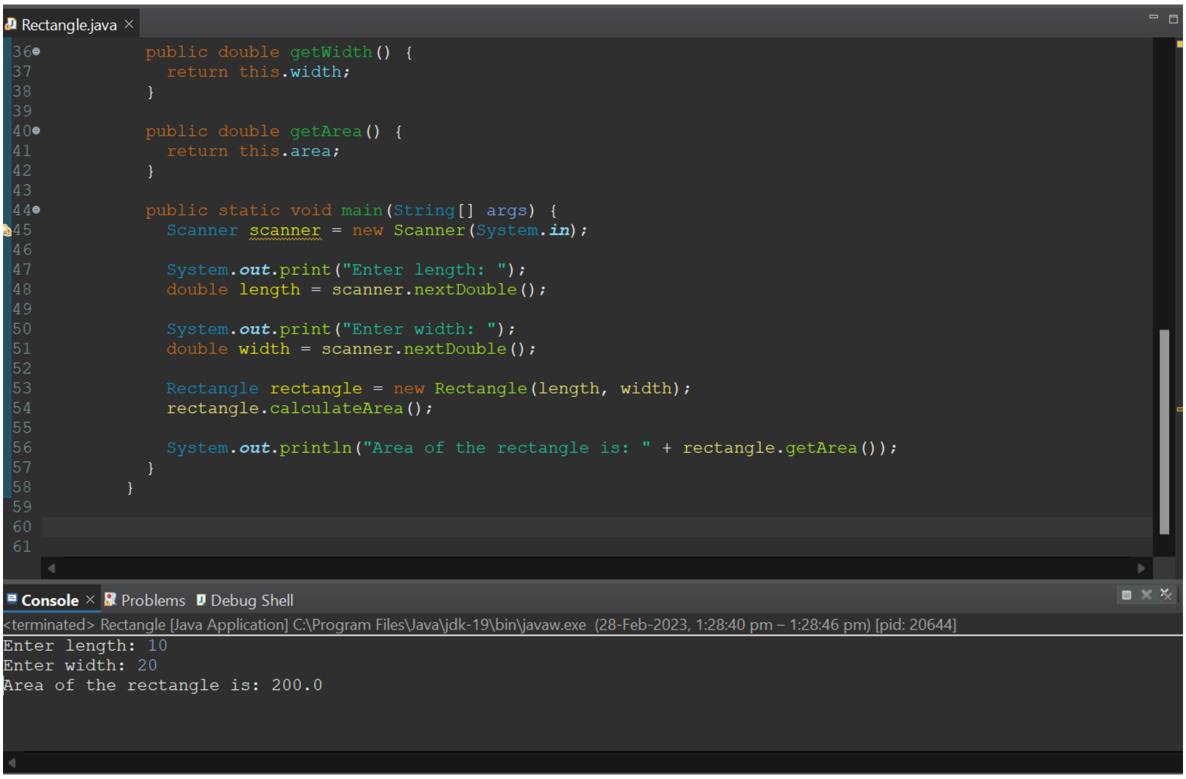


```java
package assignment2;
import java.util.Scanner;

public class Circle {

            double radius;
            double diameter;
            double area;


            public Circle(double radius) {
                this.radius = radius;
            }


            public void calculateDiameter() {
                diameter = radius * 2;
                System.out.println("Diameter of the circle is: " + diameter);
            }


            public void calculateArea() {
                area = Math.PI * radius * radius;
                System.out.println("Area of the circle is: " + area);
            }

```

```
<terminated> Circle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (28-Feb-2023, 12:39:19 pm – 12:39:23 pm) [pid: 8152]
Enter the radius of the circle: 10
Diameter of the circle is: 20.0
Area of the circle is: 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/oQ3xRb

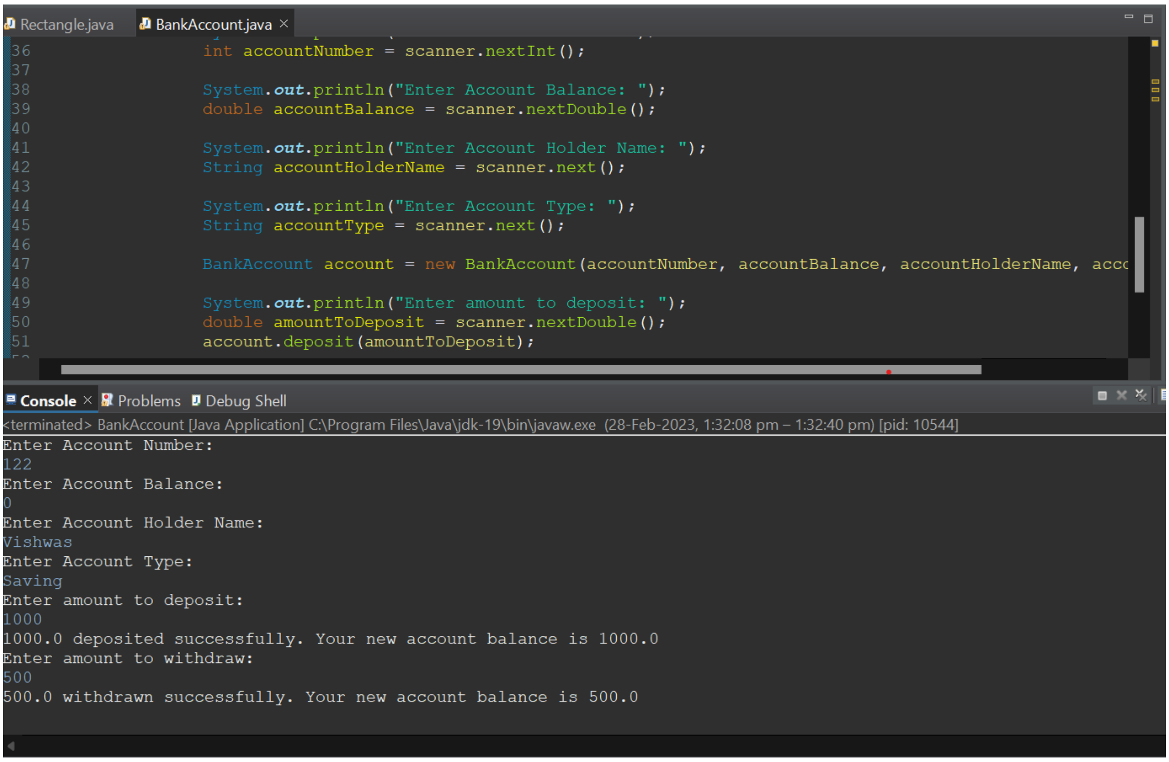


```
  public double getWidth() {
    return this.width;
  }

  public double getArea() {
    return this.area;
  }

  public static void main(String[] args) {
    Scanner scanner = new Scanner(System.in);

    System.out.print("Enter length: ");
    double length = scanner.nextDouble();

    System.out.print("Enter width: ");
    double width = scanner.nextDouble();

    Rectangle rectangle = new Rectangle(length, width);
    rectangle.calculateArea();

    System.out.println("Area of the rectangle is: " + rectangle.getArea());
  }
}
```

<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

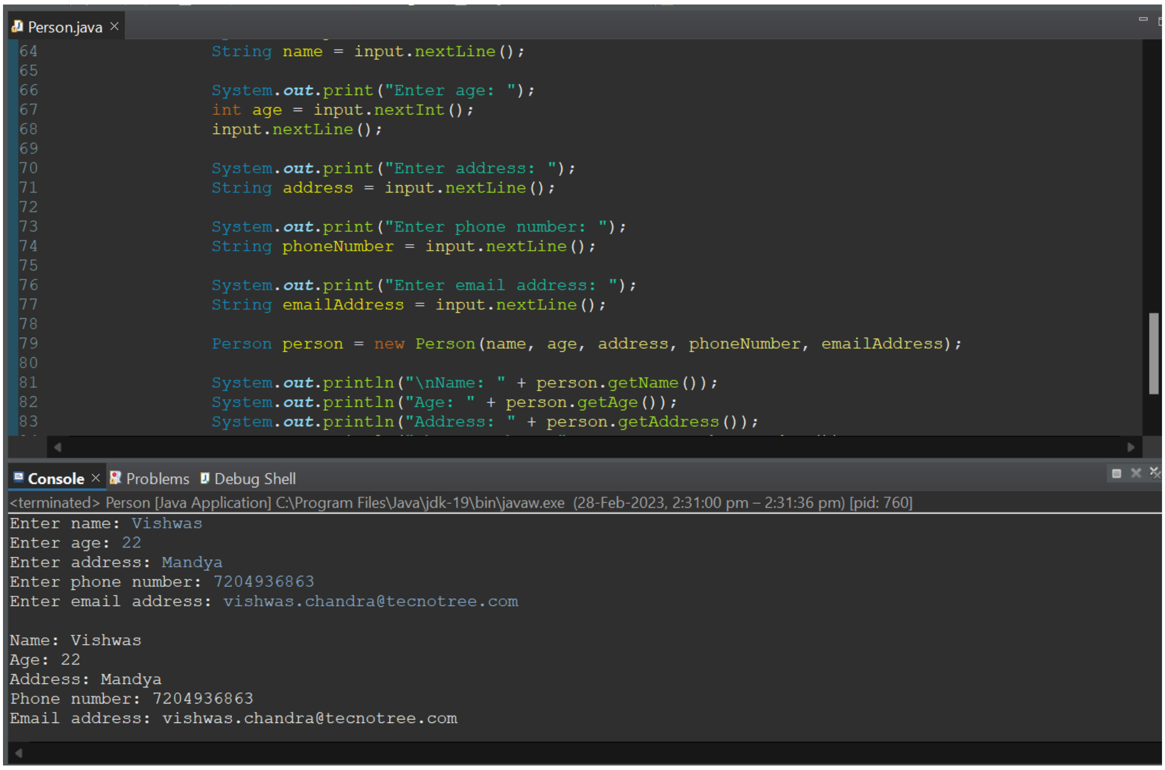


```
    int accountNumber = scanner.nextInt();

    System.out.println("Enter Account Balance: ");
    double accountBalance = scanner.nextDouble();

    System.out.println("Enter Account Holder Name: ");
    String accountHolderName = scanner.next();

    System.out.println("Enter Account Type: ");
    String accountType = scanner.next();

    BankAccount account = new BankAccount(accountNumber, accountBalance, accountHolderName, acco

    System.out.println("Enter amount to deposit: ");
    double amountToDeposit = scanner.nextDouble();
    account.deposit(amountToDeposit);
```

<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

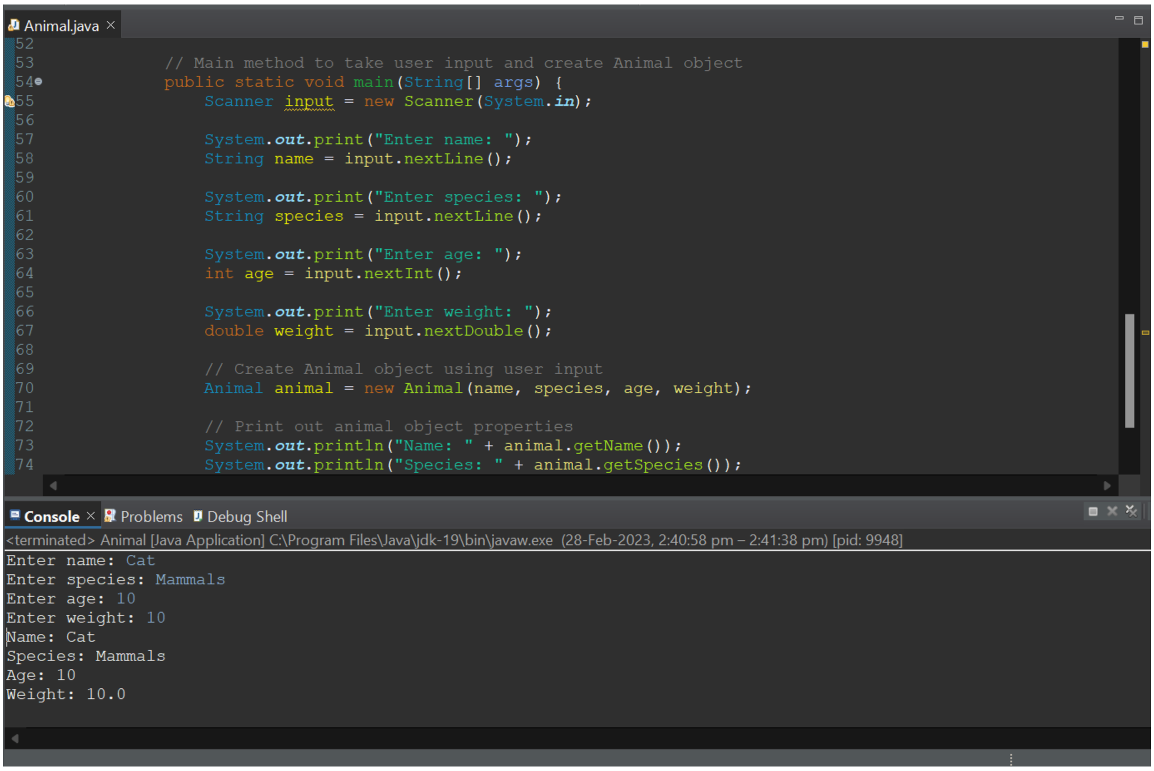


```
        String name = input.nextLine();

        System.out.print("Enter age: ");
        int age = input.nextInt();
        input.nextLine();

        System.out.print("Enter address: ");
        String address = input.nextLine();

        System.out.print("Enter phone number: ");
        String phoneNumber = input.nextLine();

        System.out.print("Enter email address: ");
        String emailAddress = input.nextLine();

        Person person = new Person(name, age, address, phoneNumber, emailAddress);

        System.out.println("\nName: " + person.getName());
        System.out.println("Age: " + person.getAge());
        System.out.println("Address: " + person.getAddress());
```

```
<terminated> Person [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (28-Feb-2023, 2:31:00 pm – 2:31:36 pm) [pid: 760]
Enter name: Vishwas
Enter age: 22
Enter address: Mandya
Enter phone number: 7204936863
Enter email address: vishwas.chandra@tecnotree.com

Name: Vishwas
Age: 22
Address: Mandya
Phone number: 7204936863
Email address: vishwas.chandra@tecnotree.com
```

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.

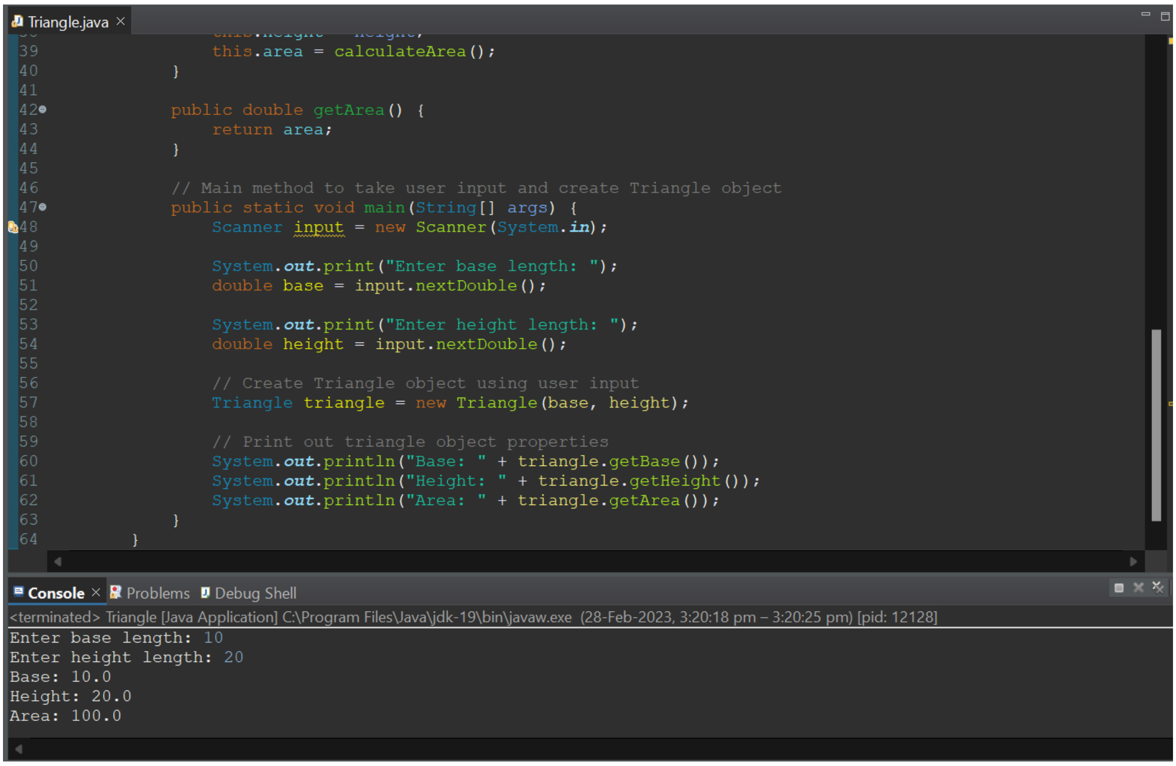
   https://codeshare.io/gL9xZy



```

    // Main method to take user input and create Animal object
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        System.out.print("Enter name: ");
        String name = input.nextLine();

        System.out.print("Enter species: ");
        String species = input.nextLine();

        System.out.print("Enter age: ");
        int age = input.nextInt();

        System.out.print("Enter weight: ");
        double weight = input.nextDouble();

        // Create Animal object using user input
        Animal animal = new Animal(name, species, age, weight);

        // Print out animal object properties
        System.out.println("Name: " + animal.getName());
        System.out.println("Species: " + animal.getSpecies());
```

```
<terminated> Animal [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (28-Feb-2023, 2:40:58 pm – 2:41:38 pm) [pid: 9948]
Enter name: Cat
Enter species: Mammals
Enter age: 10
Enter weight: 10
Name: Cat
Species: Mammals
Age: 10
Weight: 10.0
```

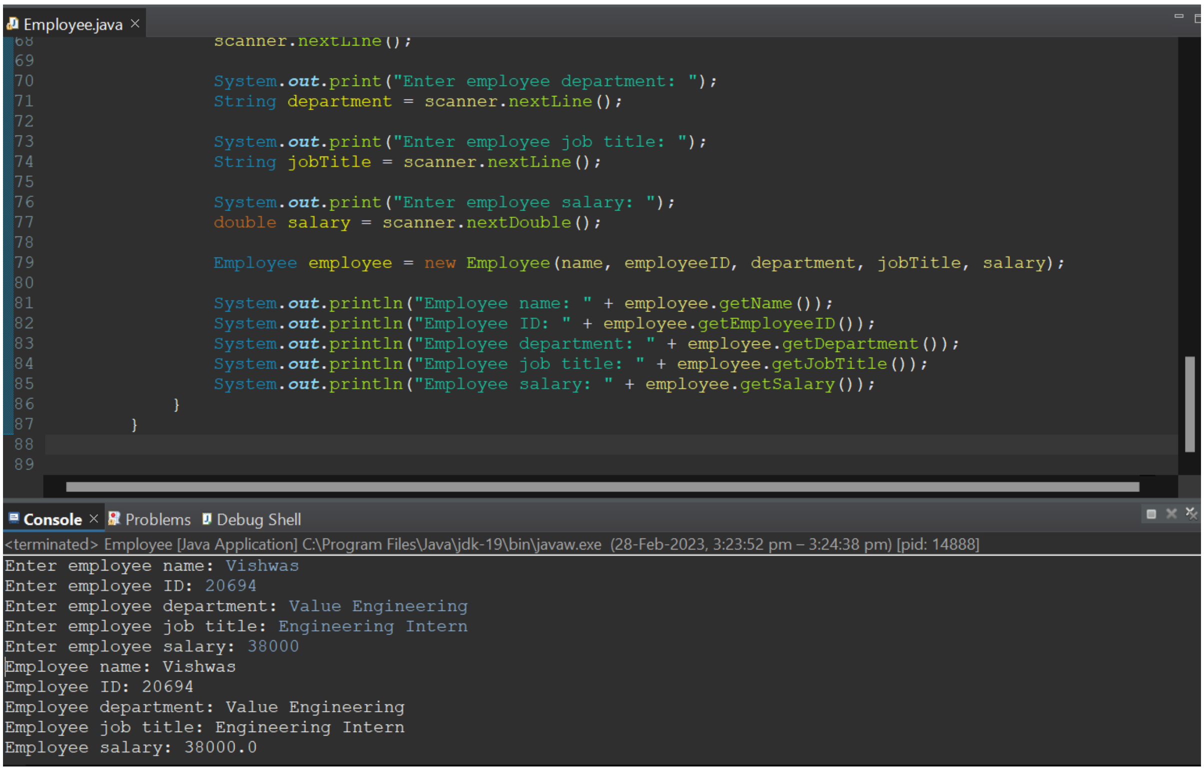
8. Create a class called "Triangle" that has the following properties: base, height, and area. Include a constructor and a method to calculate the area of the triangle. https://codeshare.io/xv4Y9R



```
            this.height = height;
            this.area = calculateArea();
        }

        public double getArea() {
            return area;
        }

        // Main method to take user input and create Triangle object
        public static void main(String[] args) {
            Scanner input = new Scanner(System.in);

            System.out.print("Enter base length: ");
            double base = input.nextDouble();

            System.out.print("Enter height length: ");
            double height = input.nextDouble();

            // Create Triangle object using user input
            Triangle triangle = new Triangle(base, height);

            // Print out triangle object properties
            System.out.println("Base: " + triangle.getBase());
            System.out.println("Height: " + triangle.getHeight());
            System.out.println("Area: " + triangle.getArea());
        }
    }
```

```
<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

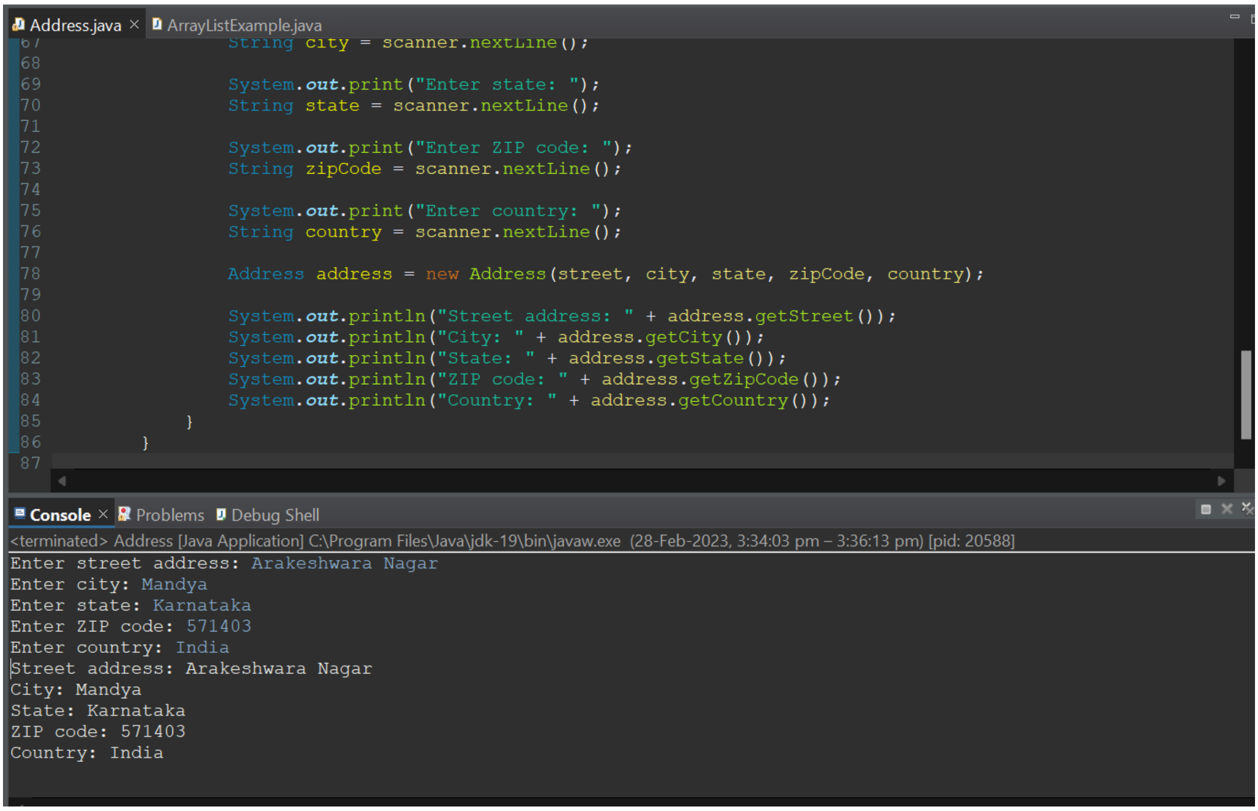


```
            scanner.nextLine();

            System.out.print("Enter employee department: ");
            String department = scanner.nextLine();

            System.out.print("Enter employee job title: ");
            String jobTitle = scanner.nextLine();

            System.out.print("Enter employee salary: ");
            double salary = scanner.nextDouble();

            Employee employee = new Employee(name, employeeID, department, jobTitle, salary);

            System.out.println("Employee name: " + employee.getName());
            System.out.println("Employee ID: " + employee.getEmployeeID());
            System.out.println("Employee department: " + employee.getDepartment());
            System.out.println("Employee job title: " + employee.getJobTitle());
            System.out.println("Employee salary: " + employee.getSalary());
        }
    }
```

```
<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



```java
        String city = scanner.nextLine();

        System.out.print("Enter state: ");
        String state = scanner.nextLine();

        System.out.print("Enter ZIP code: ");
        String zipCode = scanner.nextLine();

        System.out.print("Enter country: ");
        String country = scanner.nextLine();

        Address address = new Address(street, city, state, zipCode, country);

        System.out.println("Street address: " + address.getStreet());
        System.out.println("City: " + address.getCity());
        System.out.println("State: " + address.getState());
        System.out.println("ZIP code: " + address.getZipCode());
        System.out.println("Country: " + address.getCountry());
    }
}
```

```
<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
```