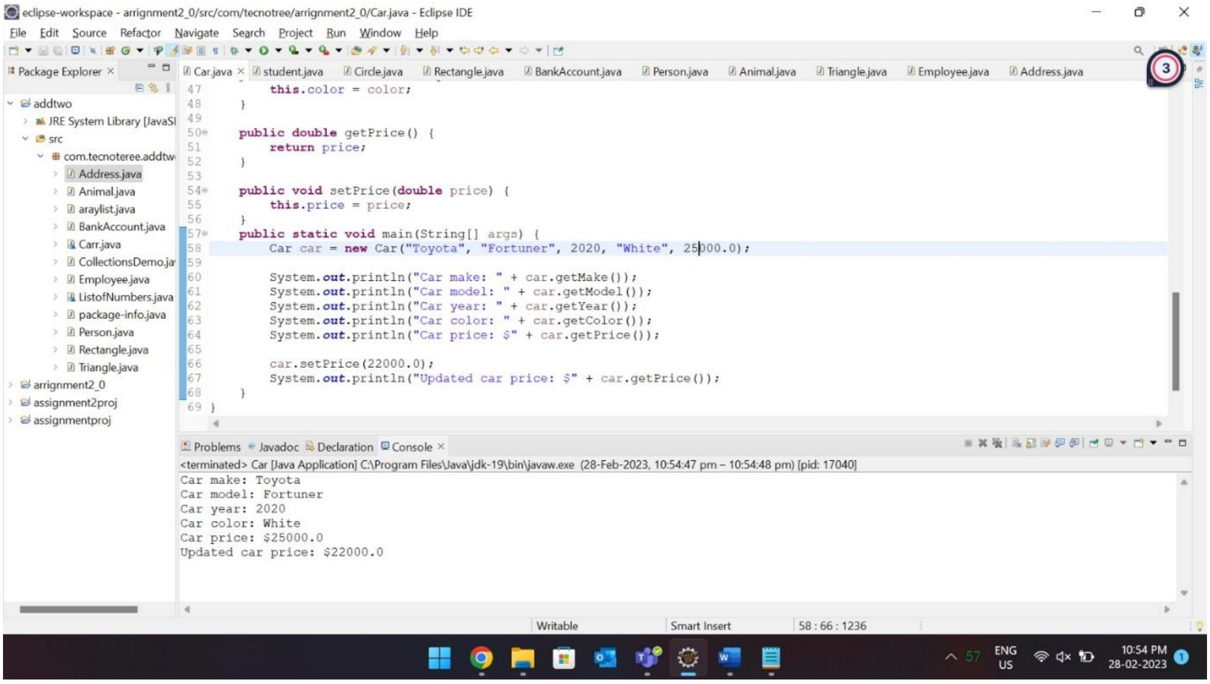
Java Assignment-2

Topic:Object-Oriented Programming (OOP) Concepts

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.

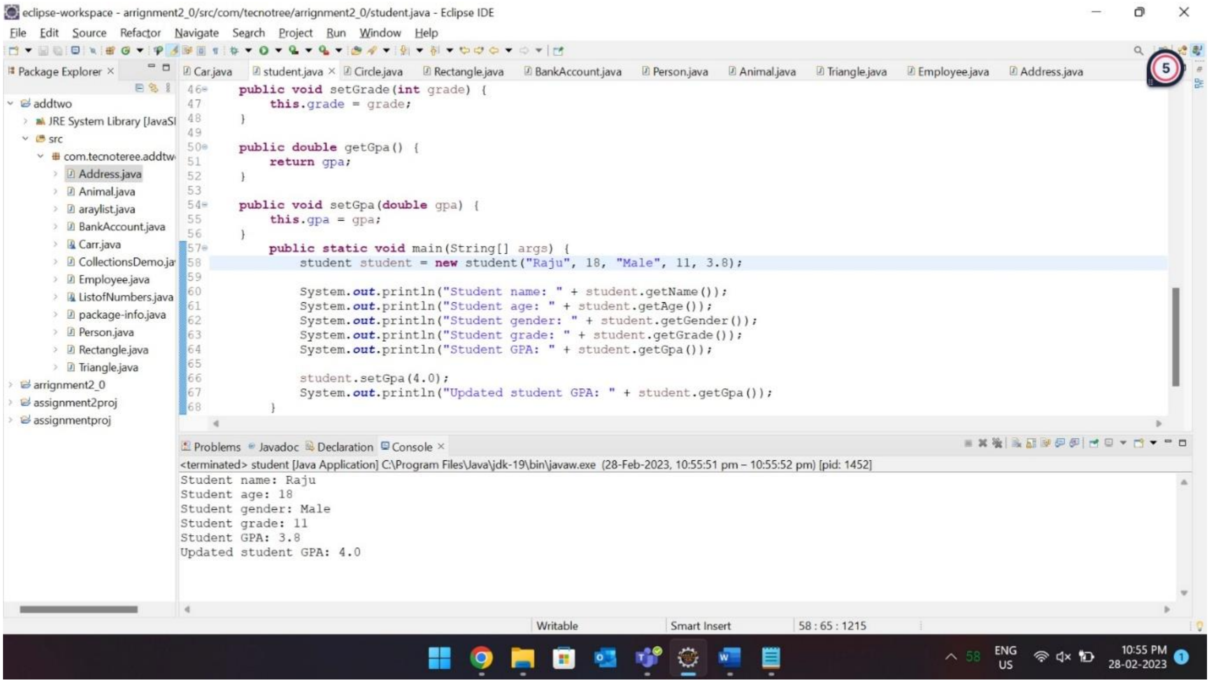


```java
        this.color = color;
    }

    public double getPrice() {
        return price;
    }

    public void setPrice(double price) {
        this.price = price;
    }
    public static void main(String[] args) {
        Car car = new Car("Toyota", "Fortuner", 2020, "White", 25000.0);

        System.out.println("Car make: " + car.getMake());
        System.out.println("Car model: " + car.getModel());
        System.out.println("Car year: " + car.getYear());
        System.out.println("Car color: " + car.getColor());
        System.out.println("Car price: $" + car.getPrice());

        car.setPrice(22000.0);
        System.out.println("Updated car price: $" + car.getPrice());
    }
}
```

```
<terminated> Car [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (28-Feb-2023, 10:54:47 pm – 10:54:48 pm) [pid: 17040]
Car make: Toyota
Car model: Fortuner
Car year: 2020
Car color: White
Car price: $25000.0
Updated car price: $22000.0
```

CODESHARE LINK: https://codeshare.io/lonJAY

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.


eclipse-workspace - arrignment2_0/src/com/tecnotree/arrignment2_0/student.java - Eclipse IDE

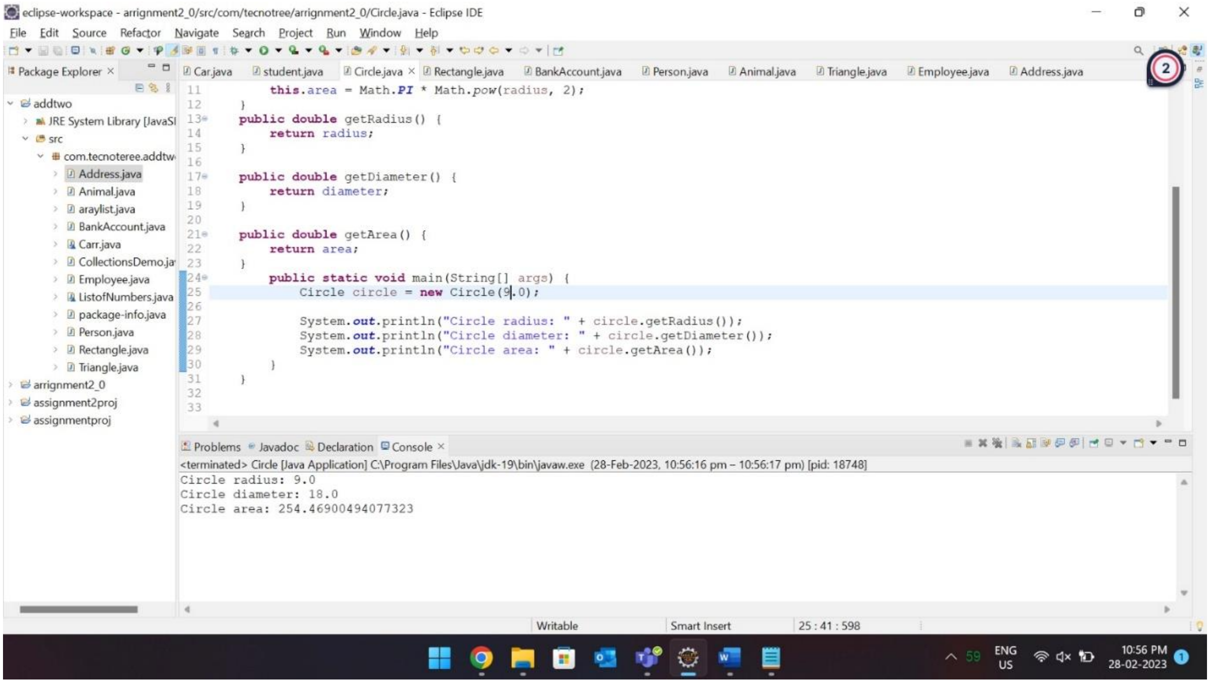
```java
    public void setGrade(int grade) {
        this.grade = grade;
    }

    public double getGpa() {
        return gpa;
    }

    public void setGpa(double gpa) {
        this.gpa = gpa;
    }
        public static void main(String[] args) {
            student student = new student("Raju", 18, "Male", 11, 3.8);

            System.out.println("Student name: " + student.getName());
            System.out.println("Student age: " + student.getAge());
            System.out.println("Student gender: " + student.getGender());
            System.out.println("Student grade: " + student.getGrade());
            System.out.println("Student GPA: " + student.getGpa());

            student.setGpa(4.0);
            System.out.println("Updated student GPA: " + student.getGpa());
        }
```

<terminated> student [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 10:55:51 pm – 10:55:52 pm) [pid: 1452]

```
Student name: Raju
Student age: 18
Student gender: Male
Student grade: 11
Student GPA: 3.8
Updated student GPA: 4.0
```

CODESHARE LINK: https://codeshare.io/r9lwPV

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.


eclipse-workspace - arrignment2_0/src/com/tecnotree/arrignment2_0/Circle.java - Eclipse IDE

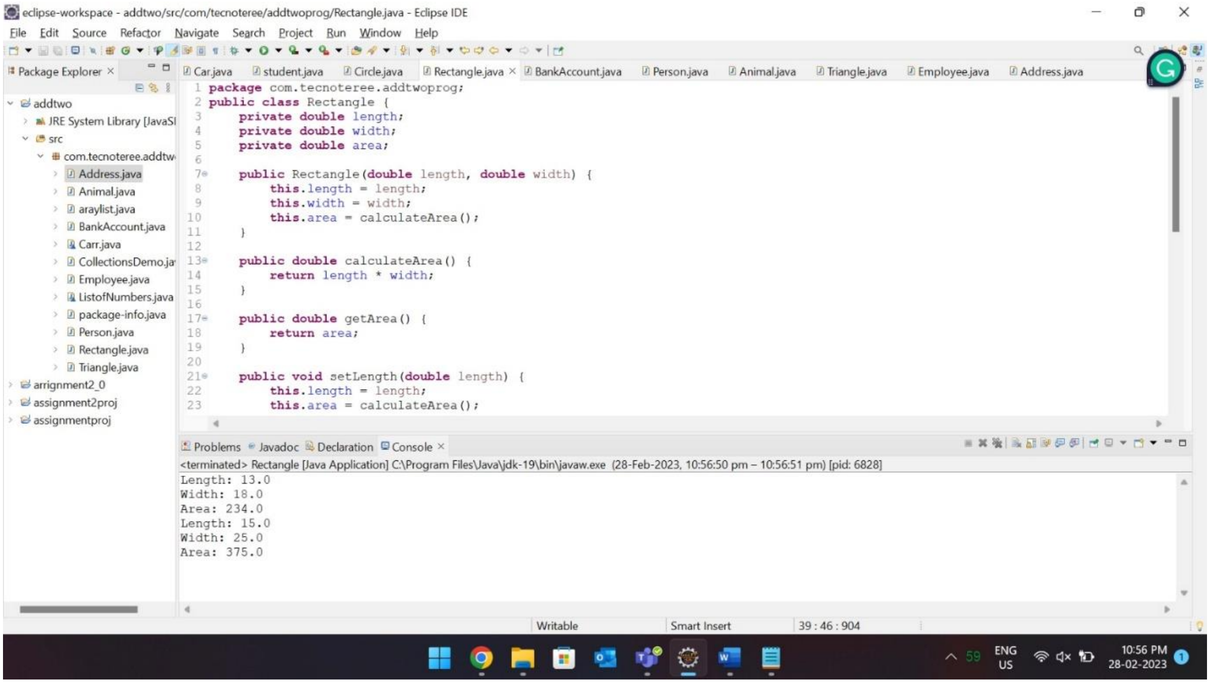
```java
        this.area = Math.PI * Math.pow(radius, 2);
    }
    public double getRadius() {
        return radius;
    }

    public double getDiameter() {
        return diameter;
    }

    public double getArea() {
        return area;
    }
        public static void main(String[] args) {
            Circle circle = new Circle(9.0);

            System.out.println("Circle radius: " + circle.getRadius());
            System.out.println("Circle diameter: " + circle.getDiameter());
            System.out.println("Circle area: " + circle.getArea());
        }
    }
```

<terminated> Circle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 10:56:16 pm – 10:56:17 pm) [pid: 18748]

```
Circle radius: 9.0
Circle diameter: 18.0
Circle area: 254.46900494077323
```

CODESHARE LINK: https://codeshare.io/4eonqE

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.

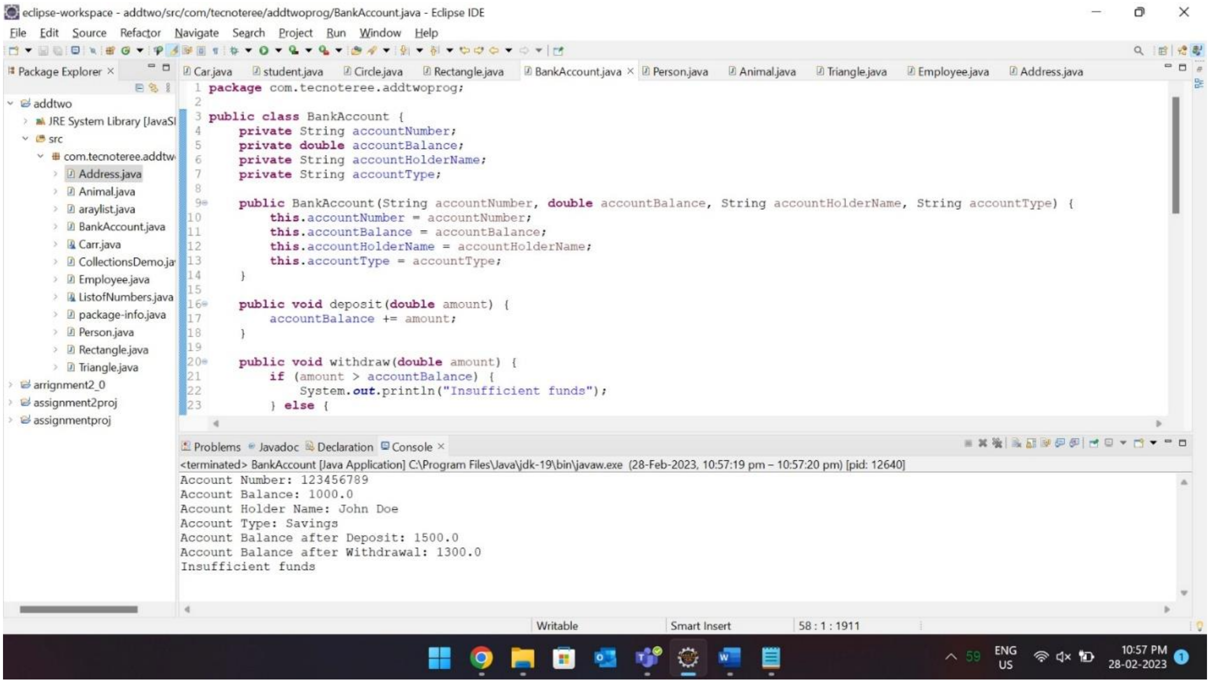

eclipse-workspace - addtwo/src/com/tecnoteree/addtwoprog/Rectangle.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Car.java student.java Circle.java Rectangle.java BankAccount.java Person.java Animal.java Triangle.java Employee.java Address.java
addtwo
JRE System Library [JavaSE
src
com.tecnoteree.addtw
Address.java
Animal.java
araylist.java
BankAccount.java
Carr.java
CollectionsDemo.ja
Employee.java
ListofNumbers.java
package-info.java
Person.java
Rectangle.java
Triangle.java
arrignment2_0
assignment2proj
assignmentproj
Problems Javadoc Declaration Console
Writable Smart Insert 39 : 46 : 904
ENG US
10:56 PM
28-02-2023

```java
package com.tecnoteree.addtwoprog;
public class Rectangle {
    private double length;
    private double width;
    private double area;

    public Rectangle(double length, double width) {
        this.length = length;
        this.width = width;
        this.area = calculateArea();
    }

    public double calculateArea() {
        return length * width;
    }

    public double getArea() {
        return area;
    }

    public void setLength(double length) {
        this.length = length;
        this.area = calculateArea();
```

```
<terminated> Rectangle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 10:56:50 pm – 10:56:51 pm) [pid: 6828]
Length: 13.0
Width: 18.0
Area: 234.0
Length: 15.0
Width: 25.0
Area: 375.0
```

CODESHARE LINK: https://codeshare.io/VZEnm8

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.

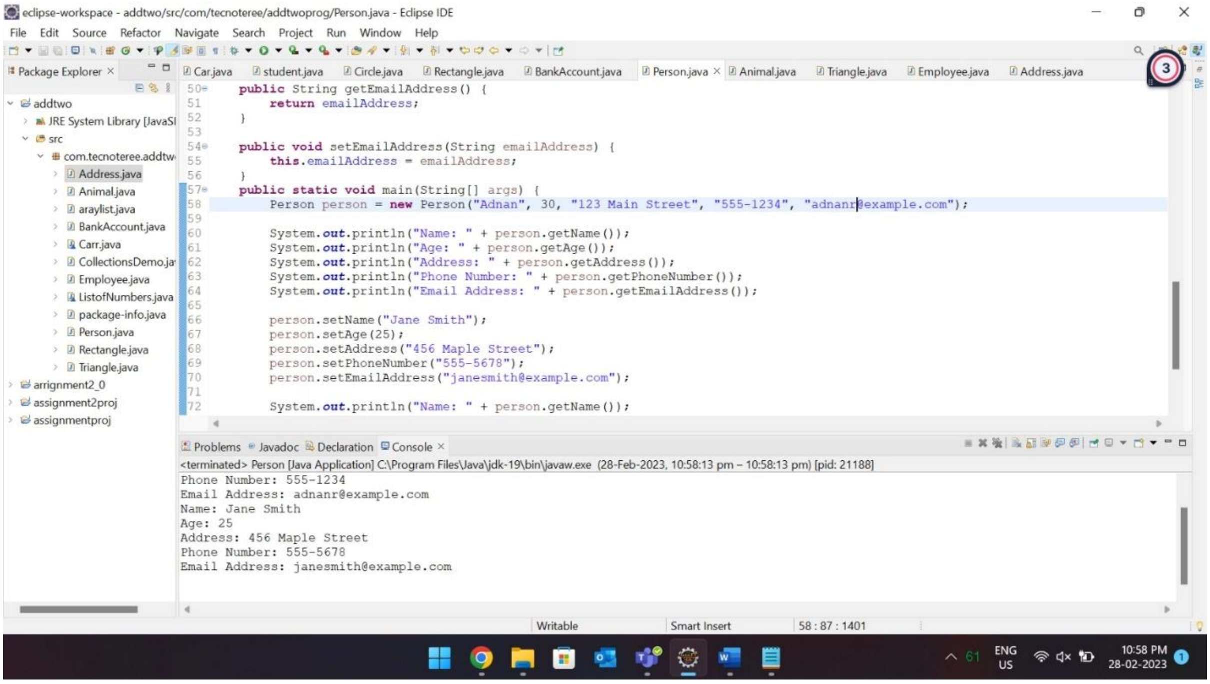

eclipse-workspace - addtwo/src/com/tecnoteree/addtwoprog/BankAccount.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Car.java student.java Circle.java Rectangle.java BankAccount.java Person.java Animal.java Triangle.java Employee.java Address.java
addtwo
JRE System Library [JavaSE
src
com.tecnoteree.addtw
Address.java
Animal.java
araylist.java
BankAccount.java
Carr.java
CollectionsDemo.ja
Employee.java
ListofNumbers.java
package-info.java
Person.java
Rectangle.java
Triangle.java
arrignment2_0
assignment2proj
assignmentproj
Problems Javadoc Declaration Console
Writable Smart Insert 58 : 1 : 1911
ENG US
10:57 PM
28-02-2023

```java
package com.tecnoteree.addtwoprog;

public class BankAccount {
    private String accountNumber;
    private double accountBalance;
    private String accountHolderName;
    private String accountType;

    public BankAccount(String accountNumber, double accountBalance, String accountHolderName, String accountType) {
        this.accountNumber = accountNumber;
        this.accountBalance = accountBalance;
        this.accountHolderName = accountHolderName;
        this.accountType = accountType;
    }

    public void deposit(double amount) {
        accountBalance += amount;
    }

    public void withdraw(double amount) {
        if (amount > accountBalance) {
            System.out.println("Insufficient funds");
        } else {
```

```
<terminated> BankAccount [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 10:57:19 pm – 10:57:20 pm) [pid: 12640]
Account Number: 123456789
Account Balance: 1000.0
Account Holder Name: John Doe
Account Type: Savings
Account Balance after Deposit: 1500.0
Account Balance after Withdrawal: 1300.0
Insufficient funds
```

CODESHARE LINK: https://codeshare.io/qPm6lk

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.


eclipse-workspace - addtwo/src/com/tecnoteree/addtwoprog/Person.java - Eclipse IDE

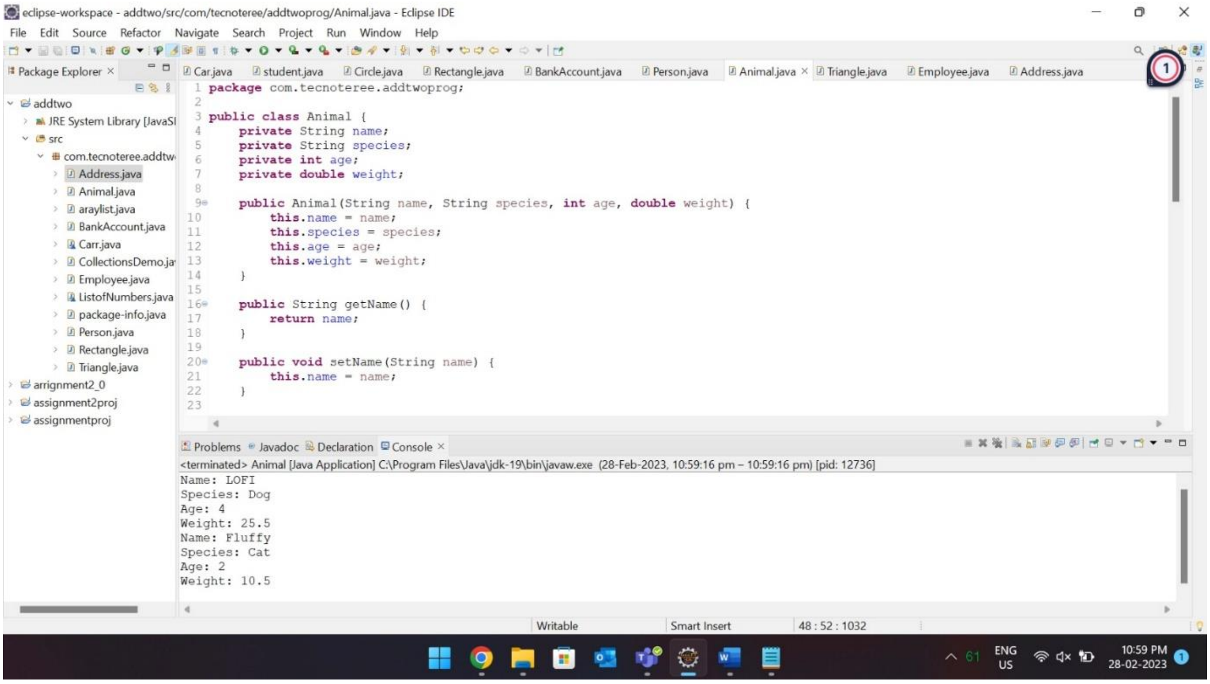
```java
    public String getEmailAddress() {
        return emailAddress;
    }

    public void setEmailAddress(String emailAddress) {
        this.emailAddress = emailAddress;
    }
    public static void main(String[] args) {
        Person person = new Person("Adnan", 30, "123 Main Street", "555-1234", "adnanr@example.com");

        System.out.println("Name: " + person.getName());
        System.out.println("Age: " + person.getAge());
        System.out.println("Address: " + person.getAddress());
        System.out.println("Phone Number: " + person.getPhoneNumber());
        System.out.println("Email Address: " + person.getEmailAddress());

        person.setName("Jane Smith");
        person.setAge(25);
        person.setAddress("456 Maple Street");
        person.setPhoneNumber("555-5678");
        person.setEmailAddress("janesmith@example.com");

        System.out.println("Name: " + person.getName());
```

<terminated> Person [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 10:58:13 pm – 10:58:13 pm) [pid: 21188]

```
Phone Number: 555-1234
Email Address: adnanr@example.com
Name: Jane Smith
Age: 25
Address: 456 Maple Street
Phone Number: 555-5678
Email Address: janesmith@example.com
```

CODESHARE LINK: https://codeshare.io/MNEzgq

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.


eclipse-workspace - addtwo/src/com/tecnoteree/addtwoprog/Animal.java - Eclipse IDE

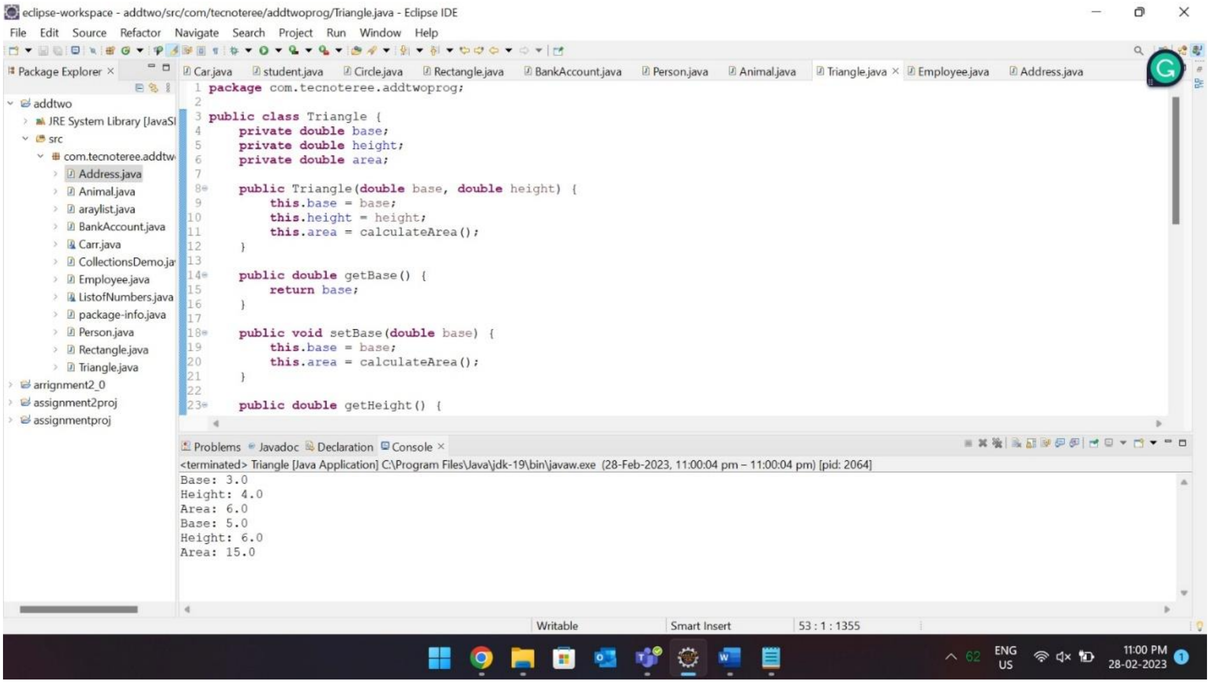
```java
package com.tecnoteree.addtwoprog;

public class Animal {
    private String name;
    private String species;
    private int age;
    private double weight;

    public Animal(String name, String species, int age, double weight) {
        this.name = name;
        this.species = species;
        this.age = age;
        this.weight = weight;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

```

<terminated> Animal [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 10:59:16 pm – 10:59:16 pm) [pid: 12736]

```
Name: LOFI
Species: Dog
Age: 4
Weight: 25.5
Name: Fluffy
Species: Cat
Age: 2
Weight: 10.5
```

CODESHARE LINK: https://codeshare.io/xv4nqD

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.

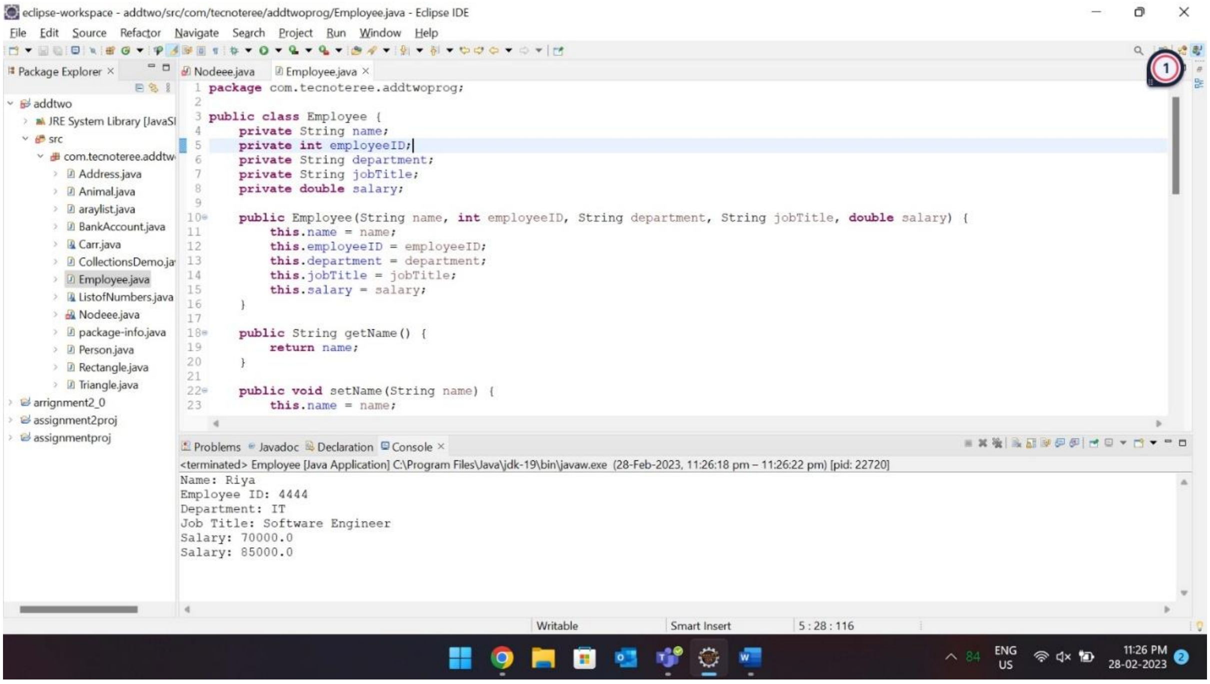

eclipse-workspace - addtwo/src/com/tecnoteree/addtwoprog/Triangle.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
addtwo
JRE System Library [JavaSE
src
com.tecnoteree.addtw
Address.java
Animal.java
araylist.java
BankAccount.java
Carr.java
CollectionsDemo.ja
Employee.java
ListofNumbers.java
package-info.java
Person.java
Rectangle.java
Triangle.java
arrignment2_0
assignment2proj
assignmentproj
Car.java student.java Circle.java Rectangle.java BankAccount.java Person.java Animal.java Triangle.java Employee.java Address.java
Problems Javadoc Declaration Console
Writable Smart Insert 53 : 1 : 1355
62 ENG US 11:00 PM 28-02-2023

```java
package com.tecnoteree.addtwoprog;

public class Triangle {
    private double base;
    private double height;
    private double area;

    public Triangle(double base, double height) {
        this.base = base;
        this.height = height;
        this.area = calculateArea();
    }

    public double getBase() {
        return base;
    }

    public void setBase(double base) {
        this.base = base;
        this.area = calculateArea();
    }

    public double getHeight() {
```

```
<terminated> Triangle [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (28-Feb-2023, 11:00:04 pm – 11:00:04 pm) [pid: 2064]
Base: 3.0
Height: 4.0
Area: 6.0
Base: 5.0
Height: 6.0
Area: 15.0
```

CODESHARE LINK: https://codeshare.io/YLE3BL

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.



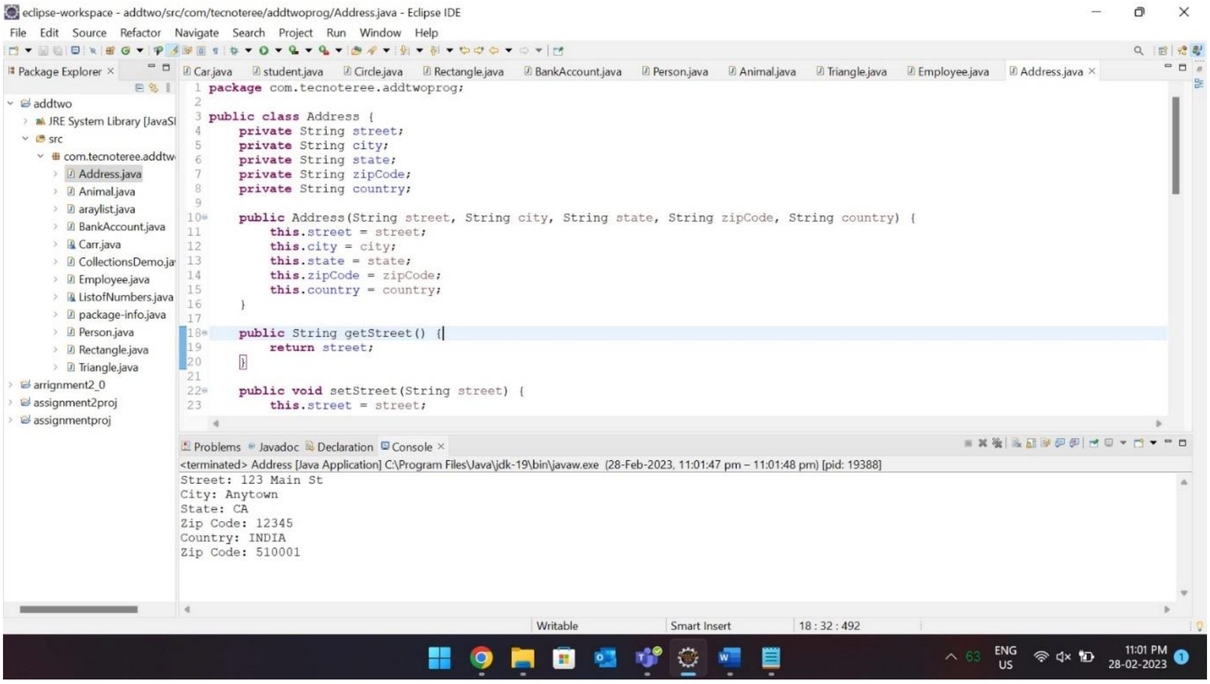
eclipse-workspace - addtwo/src/com/tecnoteree/addtwoprog/Employee.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Nodeee.java
Employee.java
Problems Javadoc Declaration Console
Writable
Smart Insert
5 : 28 : 116
11:26 PM
28-02-2023

```java
package com.tecnoteree.addtwoprog;

public class Employee {
    private String name;
    private int employeeID;
    private String department;
    private String jobTitle;
    private double salary;

    public Employee(String name, int employeeID, String department, String jobTitle, double salary) {
        this.name = name;
        this.employeeID = employeeID;
        this.department = department;
        this.jobTitle = jobTitle;
        this.salary = salary;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
```

```
<terminated> Employee [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 11:26:18 pm – 11:26:22 pm) [pid: 22720]
Name: Riya
Employee ID: 4444
Department: IT
Job Title: Software Engineer
Salary: 70000.0
Salary: 85000.0
```

CODESHARE LINK: https://codeshare.io/OdE6AW

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.



```java
package com.tecnoteree.addtwoprog;

public class Address {
    private String street;
    private String city;
    private String state;
    private String zipCode;
    private String country;

    public Address(String street, String city, String state, String zipCode, String country) {
        this.street = street;
        this.city = city;
        this.state = state;
        this.zipCode = zipCode;
        this.country = country;
    }

    public String getStreet() {
        return street;
    }

    public void setStreet(String street) {
        this.street = street;
```

```
<terminated> Address [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (28-Feb-2023, 11:01:47 pm – 11:01:48 pm) [pid: 19388]
Street: 123 Main St
City: Anytown
State: CA
Zip Code: 12345
Country: INDIA
Zip Code: 510001
```

CODESHARE LINK: https://codeshare.io/6pkoXY