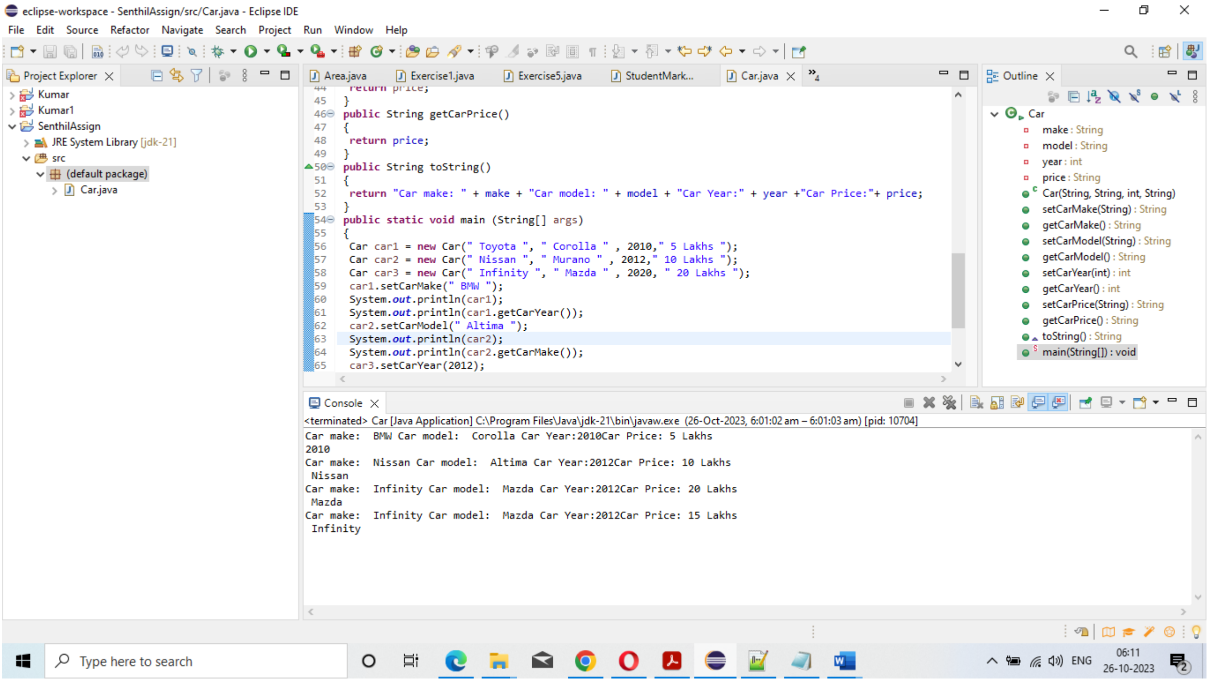
Assignment 2

[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.

Codeshare Link

https://codeshare.io/mpApYj

Screenshot



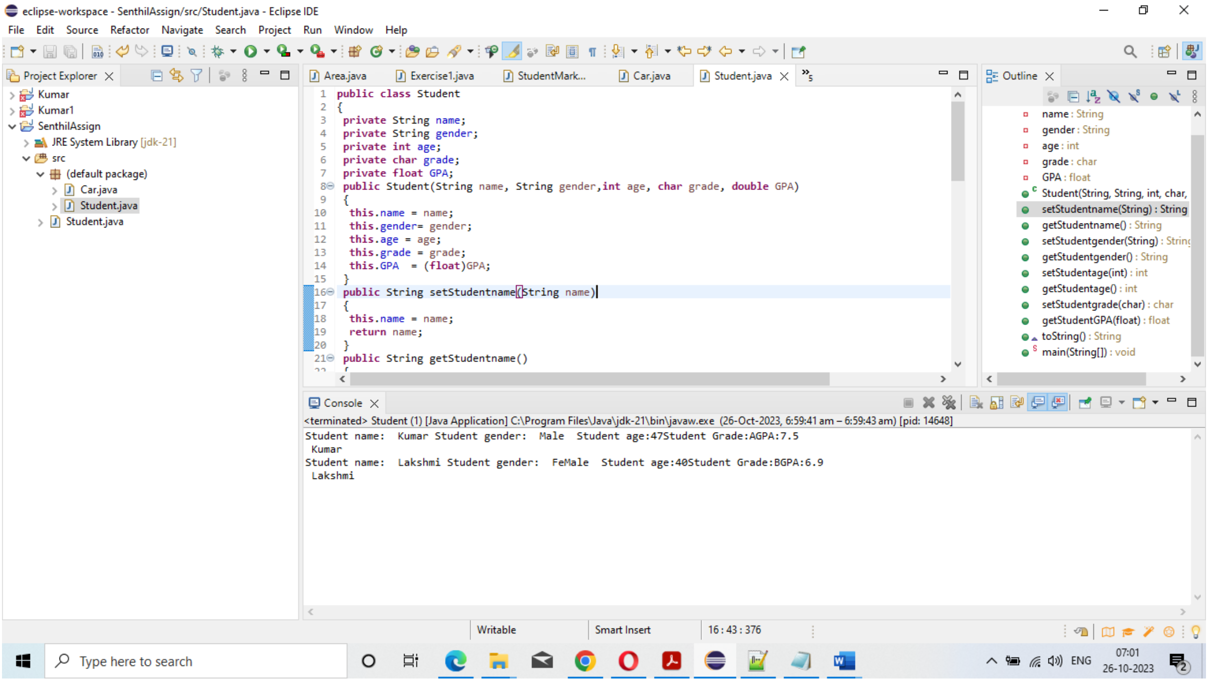
```
 return price;
}
public String getCarPrice()
{
 return price;
}
public String toString()
{
 return "Car make: " + make + "Car model: " + model + "Car Year:" + year +"Car Price:"+ price;
}
public static void main (String[] args)
{
 Car car1 = new Car(" Toyota ", " Corolla " , 2010," 5 Lakhs ");
 Car car2 = new Car(" Nissan ", " Murano " , 2012," 10 Lakhs ");
 Car car3 = new Car(" Infinity ", " Mazda " , 2020, " 20 Lakhs ");
 car1.setCarMake(" BMW ");
 System.out.println(car1);
 System.out.println(car1.getCarYear());
 car2.setCarModel(" Altima ");
 System.out.println(car2);
 System.out.println(car2.getCarMake());
 car3.setCarYear(2012);
```

```
<terminated> Car [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (26-Oct-2023, 6:01:02 am – 6:01:03 am) [pid: 10704]
Car make:  BMW Car model:  Corolla Car Year:2010Car Price: 5 Lakhs
2010
Car make:  Nissan Car model:  Altima Car Year:2012Car Price: 10 Lakhs
 Nissan
Car make:  Infinity Car model:  Mazda Car Year:2012Car Price: 20 Lakhs
 Mazda
Car make:  Infinity Car model:  Mazda Car Year:2012Car Price: 15 Lakhs
 Infinity
```

[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.

Codeshare link

https://codeshare.io/JbZb46



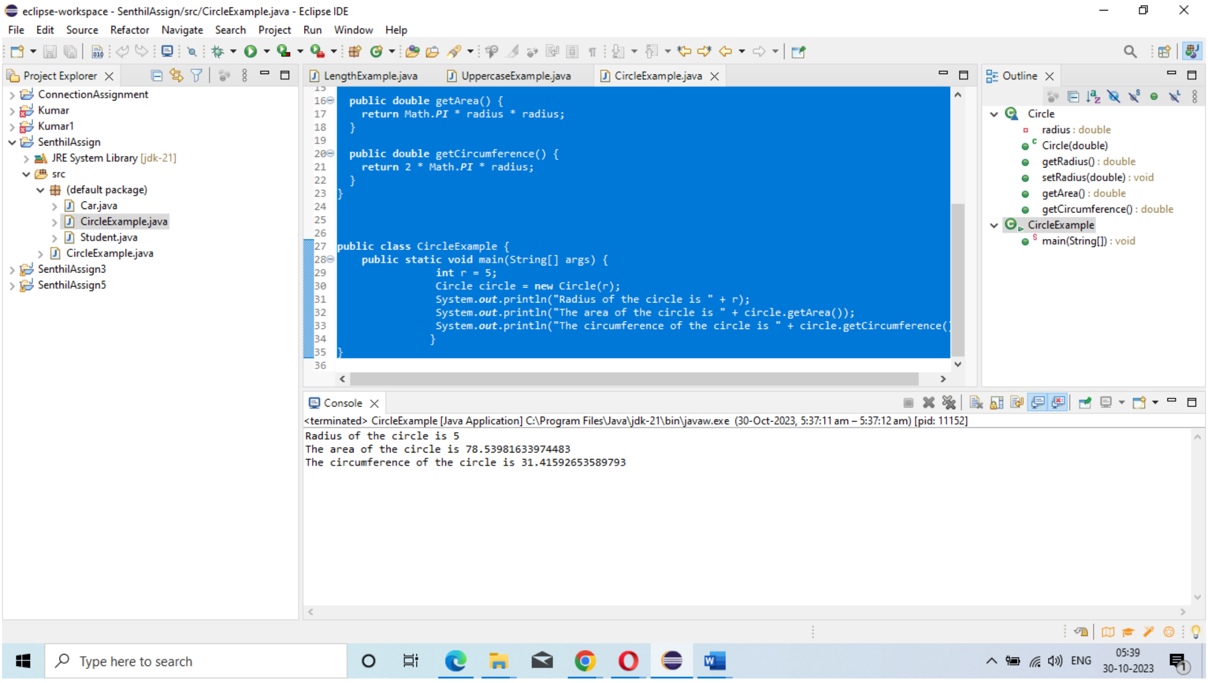
```java
public class Student
{
 private String name;
 private String gender;
 private int age;
 private char grade;
 private float GPA;
 public Student(String name, String gender,int age, char grade, double GPA)
 {
  this.name = name;
  this.gender= gender;
  this.age = age;
  this.grade = grade;
  this.GPA  = (float)GPA;
 }
 public String setStudentname(String name)
 {
  this.name = name;
  return name;
 }
 public String getStudentname()
```

```
<terminated> Student (1) [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (26-Oct-2023, 6:59:41 am – 6:59:43 am) [pid: 14648]
Student name:  Kumar Student gender:  Male  Student age:47Student Grade:AGPA:7.5
 Kumar
Student name:  Lakshmi Student gender:  FeMale  Student age:40Student Grade:BGPA:6.9
 Lakshmi
```

[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

Codeshare link:

https://codeshare.io/dwmpZB



```java
  public double getArea() {
    return Math.PI * radius * radius;
  }

  public double getCircumference() {
    return 2 * Math.PI * radius;
  }
}



public class CircleExample {
    public static void main(String[] args) {
                int r = 5;
                Circle circle = new Circle(r);
                System.out.println("Radius of the circle is " + r);
                System.out.println("The area of the circle is " + circle.getArea());
                System.out.println("The circumference of the circle is " + circle.getCircumference(
               }
}
```

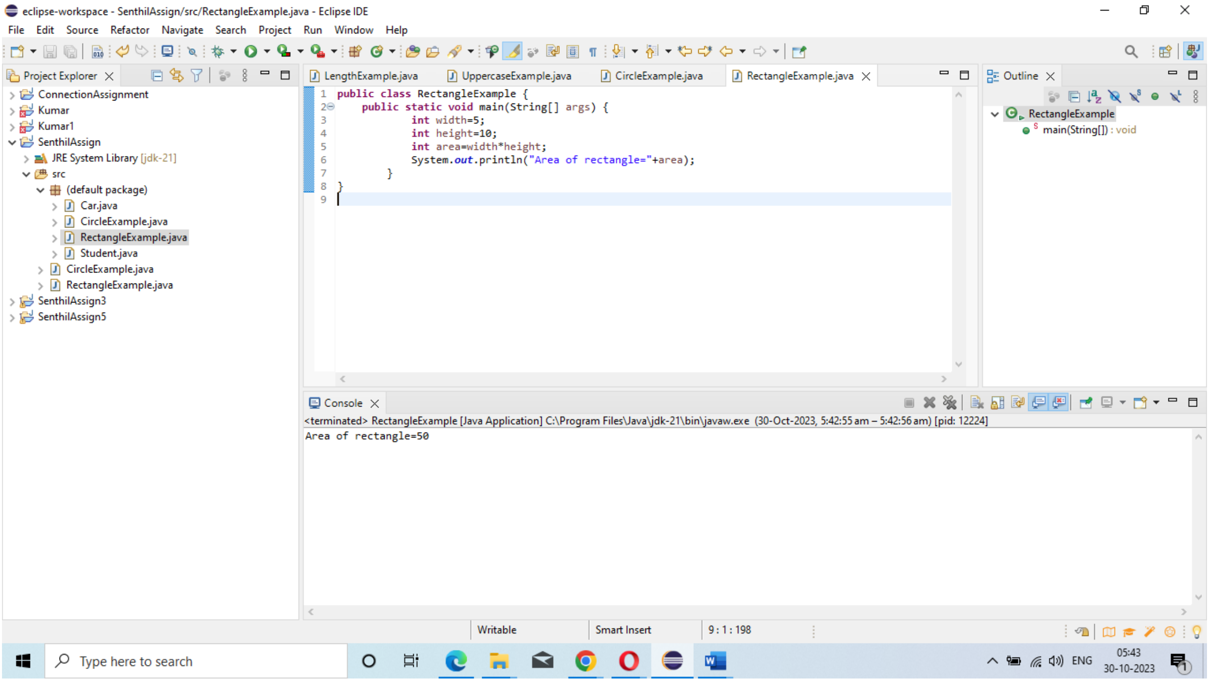
<terminated> CircleExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (30-Oct-2023, 5:37:11 am – 5:37:12 am) [pid: 11152]

```
Radius of the circle is 5
The area of the circle is 78.53981633974483
The circumference of the circle is 31.41592653589793
```

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.

Codeshare Link:

https://codeshare.io/9OoYW7



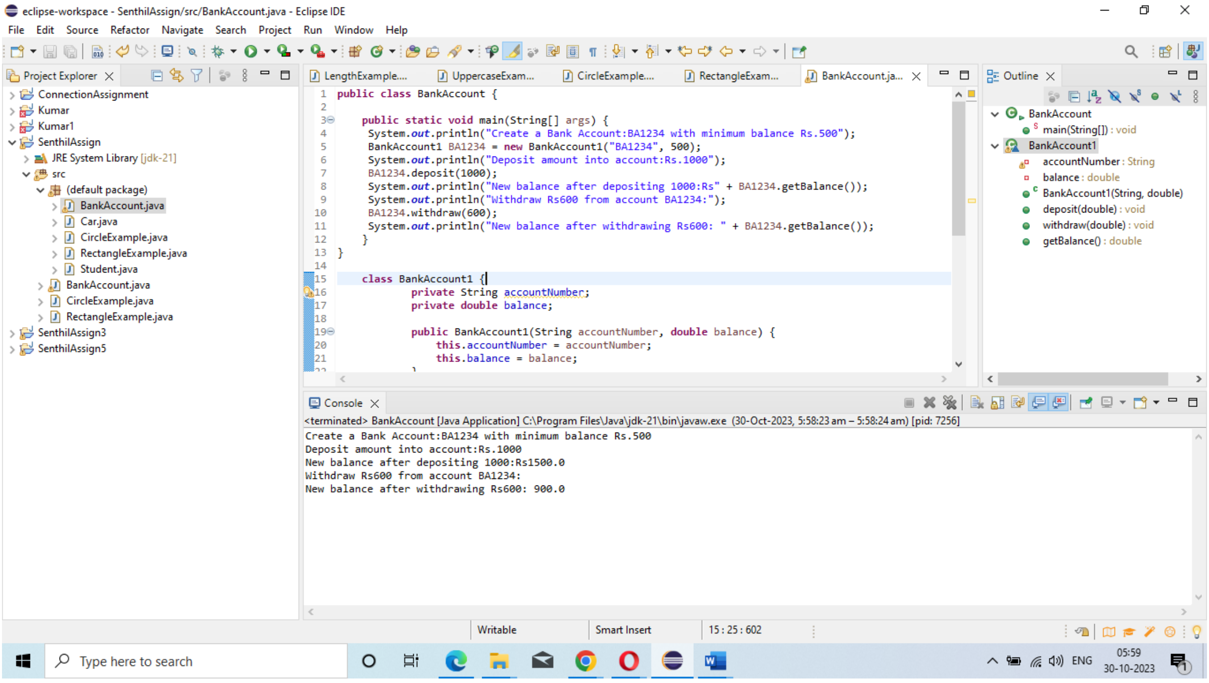
```java
public class RectangleExample {
    public static void main(String[] args) {
            int width=5;
            int height=10;
            int area=width*height;
            System.out.println("Area of rectangle="+area);
        }
}
```

```
<terminated> RectangleExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (30-Oct-2023, 5:42:55 am – 5:42:56 am) [pid: 12224]
Area of rectangle=50
```

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.

Codeshare link:

https://codeshare.io/3Aex41



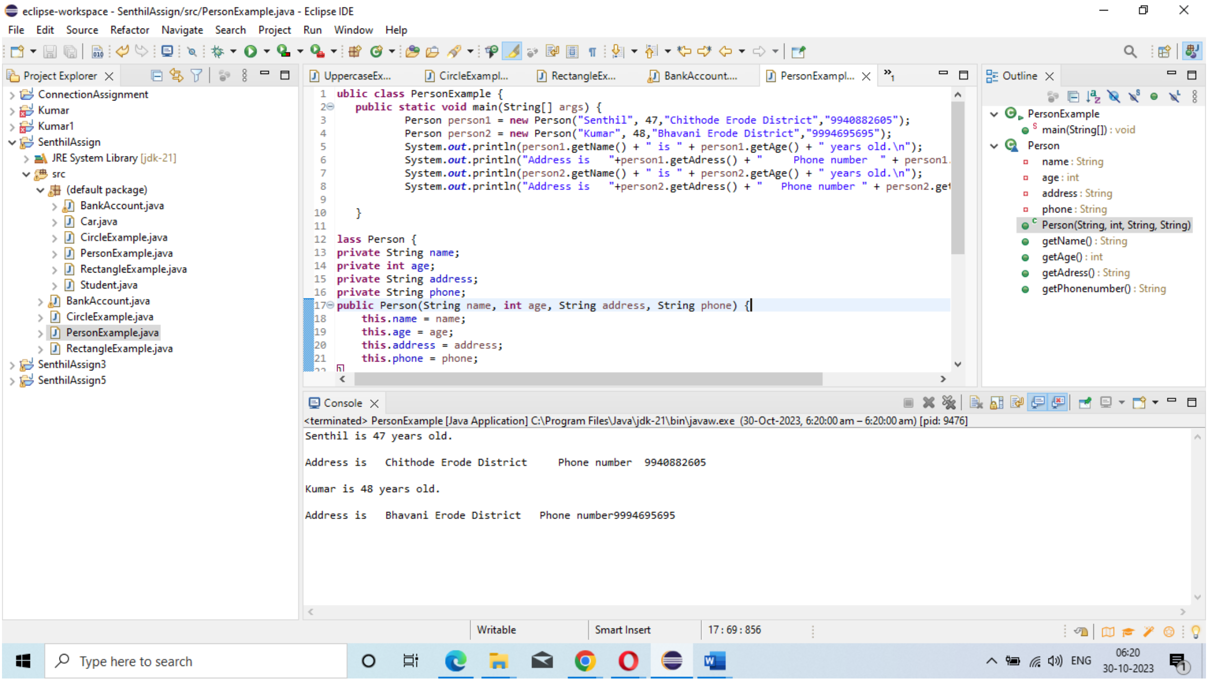
```java
public class BankAccount {

    public static void main(String[] args) {
     System.out.println("Create a Bank Account:BA1234 with minimum balance Rs.500");
     BankAccount1 BA1234 = new BankAccount1("BA1234", 500);
     System.out.println("Deposit amount into account:Rs.1000");
     BA1234.deposit(1000);
     System.out.println("New balance after depositing 1000:Rs" + BA1234.getBalance());
     System.out.println("Withdraw Rs600 from account BA1234:");
     BA1234.withdraw(600);
     System.out.println("New balance after withdrawing Rs600: " + BA1234.getBalance());
    }
}

    class BankAccount1 {
            private String accountNumber;
            private double balance;

            public BankAccount1(String accountNumber, double balance) {
                this.accountNumber = accountNumber;
                this.balance = balance;
```

```
<terminated> BankAccount [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (30-Oct-2023, 5:58:23 am – 5:58:24 am) [pid: 7256]
Create a Bank Account:BA1234 with minimum balance Rs.500
Deposit amount into account:Rs.1000
New balance after depositing 1000:Rs1500.0
Withdraw Rs600 from account BA1234:
New balance after withdrawing Rs600: 900.0
```

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.

Codeshare link:

https://codeshare.io/MNqJLR



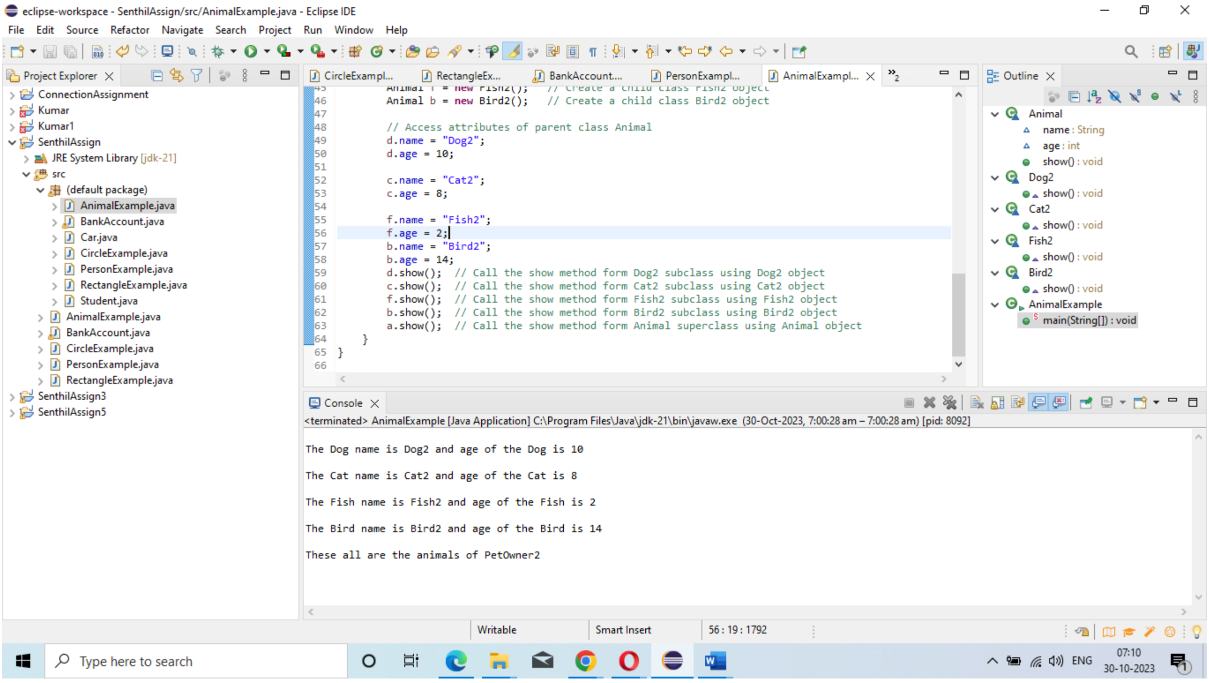
```
ublic class PersonExample {
    public static void main(String[] args) {
            Person person1 = new Person("Senthil", 47,"Chithode Erode District","9940882605");
            Person person2 = new Person("Kumar", 48,"Bhavani Erode District","9994695695");
            System.out.println(person1.getName() + " is " + person1.getAge() + " years old.\n");
            System.out.println("Address is   "+person1.getAdress() + "     Phone number  " + person1.
            System.out.println(person2.getName() + " is " + person2.getAge() + " years old.\n");
            System.out.println("Address is   "+person2.getAdress() + "   Phone number " + person2.get

    }

lass Person {
private String name;
private int age;
private String address;
private String phone;
public Person(String name, int age, String address, String phone) {
    this.name = name;
    this.age = age;
    this.address = address;
    this.phone = phone;
```

```
<terminated> PersonExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (30-Oct-2023, 6:20:00 am – 6:20:00 am) [pid: 9476]
Senthil is 47 years old.

Address is   Chithode Erode District     Phone number  9940882605

Kumar is 48 years old.

Address is   Bhavani Erode District   Phone number9994695695
```

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.

Codeshare link:

https://codeshare.io/PdWz9M



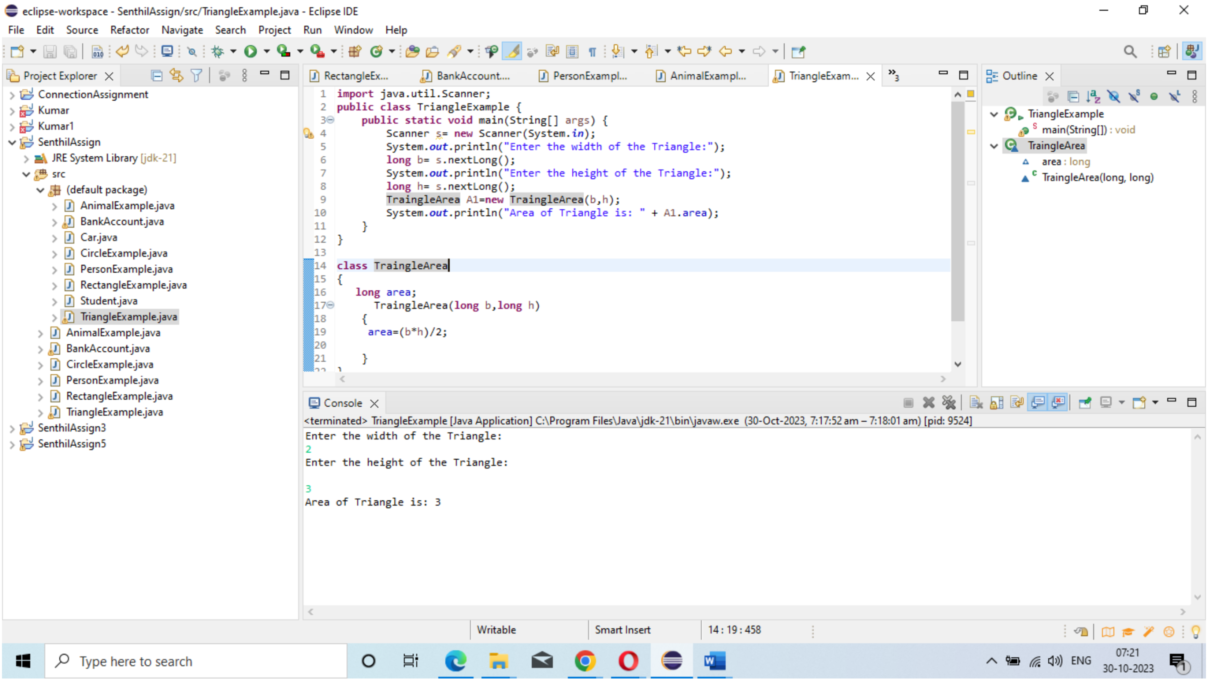
```java
        Animal f = new Fish2();   // Create a child class Fish2 object
        Animal b = new Bird2();   // Create a child class Bird2 object

        // Access attributes of parent class Animal
        d.name = "Dog2";
        d.age = 10;

        c.name = "Cat2";
        c.age = 8;

        f.name = "Fish2";
        f.age = 2;
        b.name = "Bird2";
        b.age = 14;
        d.show();  // Call the show method form Dog2 subclass using Dog2 object
        c.show();  // Call the show method form Cat2 subclass using Cat2 object
        f.show();  // Call the show method form Fish2 subclass using Fish2 object
        b.show();  // Call the show method form Bird2 subclass using Bird2 object
        a.show();  // Call the show method form Animal superclass using Animal object
    }
}
```

```
<terminated> AnimalExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (30-Oct-2023, 7:00:28 am – 7:00:28 am) [pid: 8092]

The Dog name is Dog2 and age of the Dog is 10

The Cat name is Cat2 and age of the Cat is 8

The Fish name is Fish2 and age of the Fish is 2

The Bird name is Bird2 and age of the Bird is 14

These all are the animals of PetOwner2
```

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.

Codeshare link:

https://codeshare.io/6p8dOY



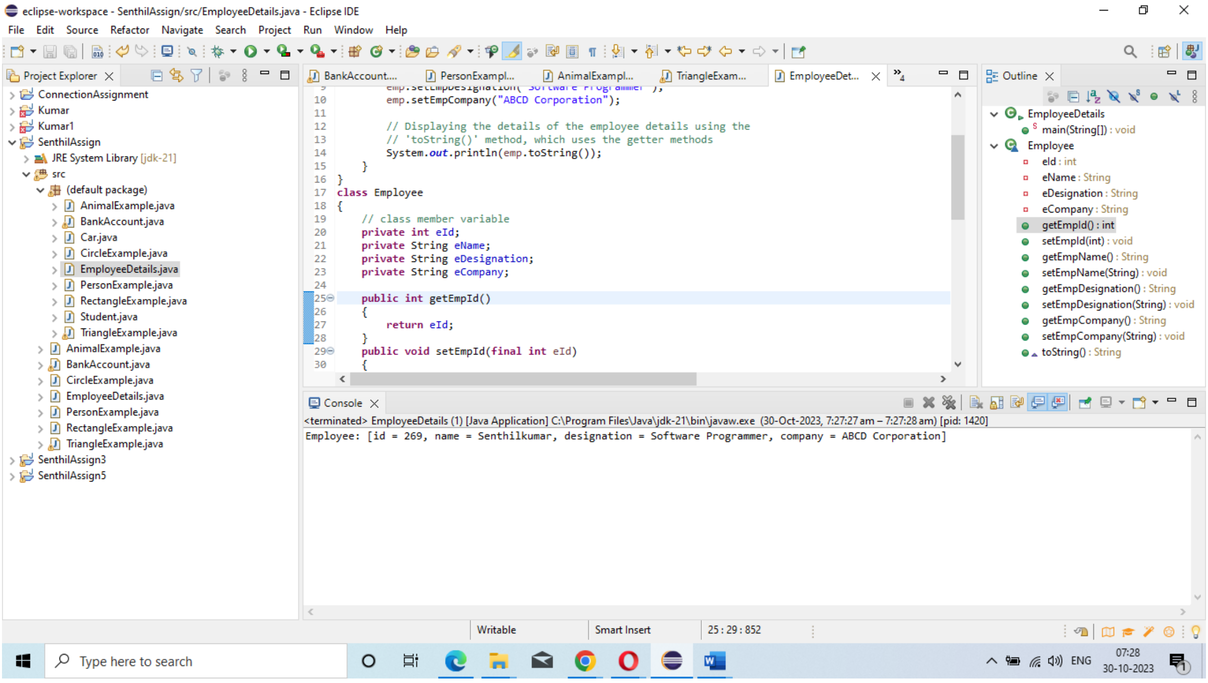
```java
import java.util.Scanner;
public class TriangleExample {
    public static void main(String[] args) {
        Scanner s= new Scanner(System.in);
        System.out.println("Enter the width of the Triangle:");
        long b= s.nextLong();
        System.out.println("Enter the height of the Triangle:");
        long h= s.nextLong();
        TraingleArea A1=new TraingleArea(b,h);
        System.out.println("Area of Triangle is: " + A1.area);
    }
}

class TraingleArea
{
   long area;
      TraingleArea(long b,long h)
    {
     area=(b*h)/2;

    }
}
```

```
<terminated> TriangleExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (30-Oct-2023, 7:17:52 am – 7:18:01 am) [pid: 9524]
Enter the width of the Triangle:
2
Enter the height of the Triangle:

3
Area of Triangle is: 3
```

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.

Codeshare link:

https://codeshare.io/nz1X0Y



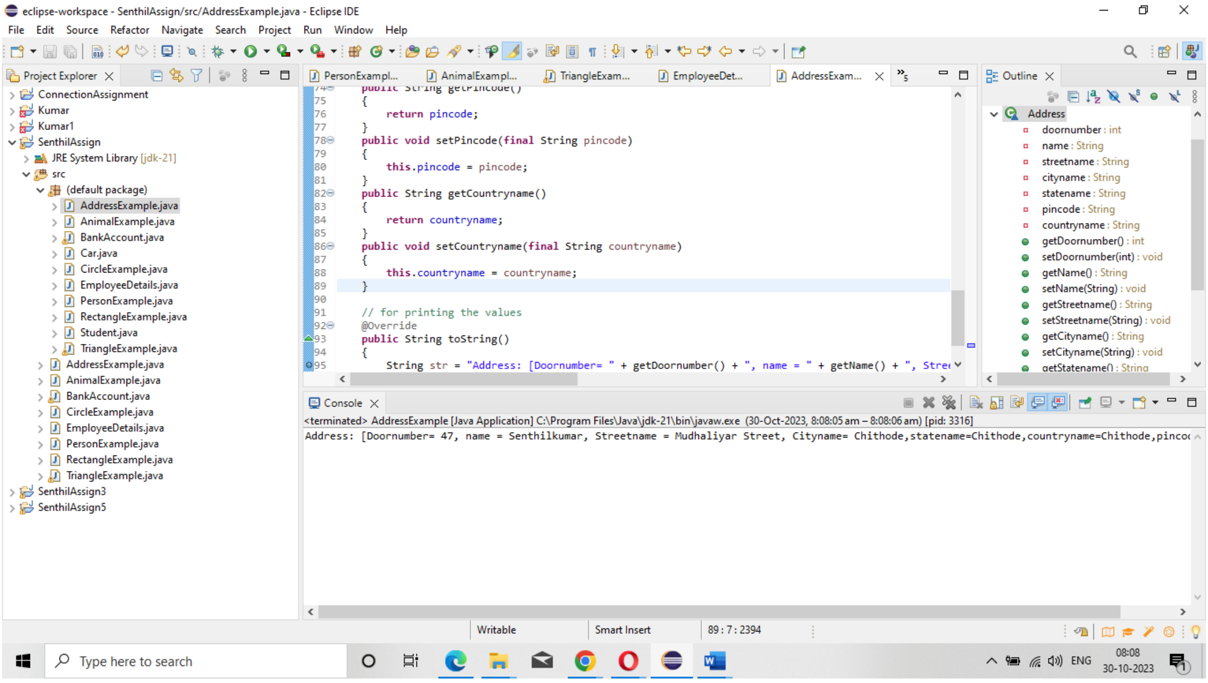
```java
        emp.setEmpDesignation("Software Programmer");
        emp.setEmpCompany("ABCD Corporation");

        // Displaying the details of the employee details using the
        // 'toString()' method, which uses the getter methods
        System.out.println(emp.toString());
    }
}
class Employee
{
    // class member variable
    private int eId;
    private String eName;
    private String eDesignation;
    private String eCompany;

    public int getEmpId()
    {
        return eId;
    }
    public void setEmpId(final int eId)
    {
```

```
<terminated> EmployeeDetails (1) [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (30-Oct-2023, 7:27:27 am – 7:27:28 am) [pid: 1420]
Employee: [id = 269, name = Senthilkumar, designation = Software Programmer, company = ABCD Corporation]
```

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.

Codeshare link:

https://codeshare.io/eVlJB4



```
    public String getPincode()
    {
        return pincode;
    }
    public void setPincode(final String pincode)
    {
        this.pincode = pincode;
    }
    public String getCountryname()
    {
        return countryname;
    }
    public void setCountryname(final String countryname)
    {
        this.countryname = countryname;
    }

    // for printing the values
    @Override
    public String toString()
    {
        String str = "Address: [Doornumber= " + getDoornumber() + ", name = " + getName() + ", Stree
```

```
<terminated> AddressExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe  (30-Oct-2023, 8:08:05 am – 8:08:06 am) [pid: 3316]
Address: [Doornumber= 47, name = Senthilkumar, Streetname = Mudhaliyar Street, Cityname= Chithode,statename=Chithode,countryname=Chithode,pincoc
```