Assignment 02

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/JbMJ8Z

```java
package com.tecnotree.assignment;

public class car {

	String make;
	String model;
	int year;
	String color;
	double price;

	public car(String make, String model, int year, String color, double price) {
		this.make = make;
		this.model = model;
		this.year = year;
		this.color = color;
		this.price = price;
	}

	public String getMake() {
		return make;
	}

	public void setMake(String make) {
		this.make = make;
	}

	public String getModel() {
		return model;
	}

	public void setModel(String model) {
		this.model = model;
	}

	public int getYear() {
		return year;
	}

	public void setYear(int year) {
		this.year = year;
	}

	public String getColor() {
		return color;
	}

	public void setColor(String color) {
		this.color = color;
	}

	public double getPrice() {
		return price;
	}

	public void setPrice(double price) {
		this.price = price;
	}
	public static void main(String[] args) {
		car myCar = new car("Thar", "varient", 2018, "black", 600000.0);

		System.out.println("My car is a " + myCar.getMake() + " " + myCar.getModel() + ".");
		System.out.println("It was made in " + myCar.getYear() + " and is " + myCar.getColor() + ".");
		System.out.println("It cost me " + myCar.getPrice() + " Rs");
	}
}
```

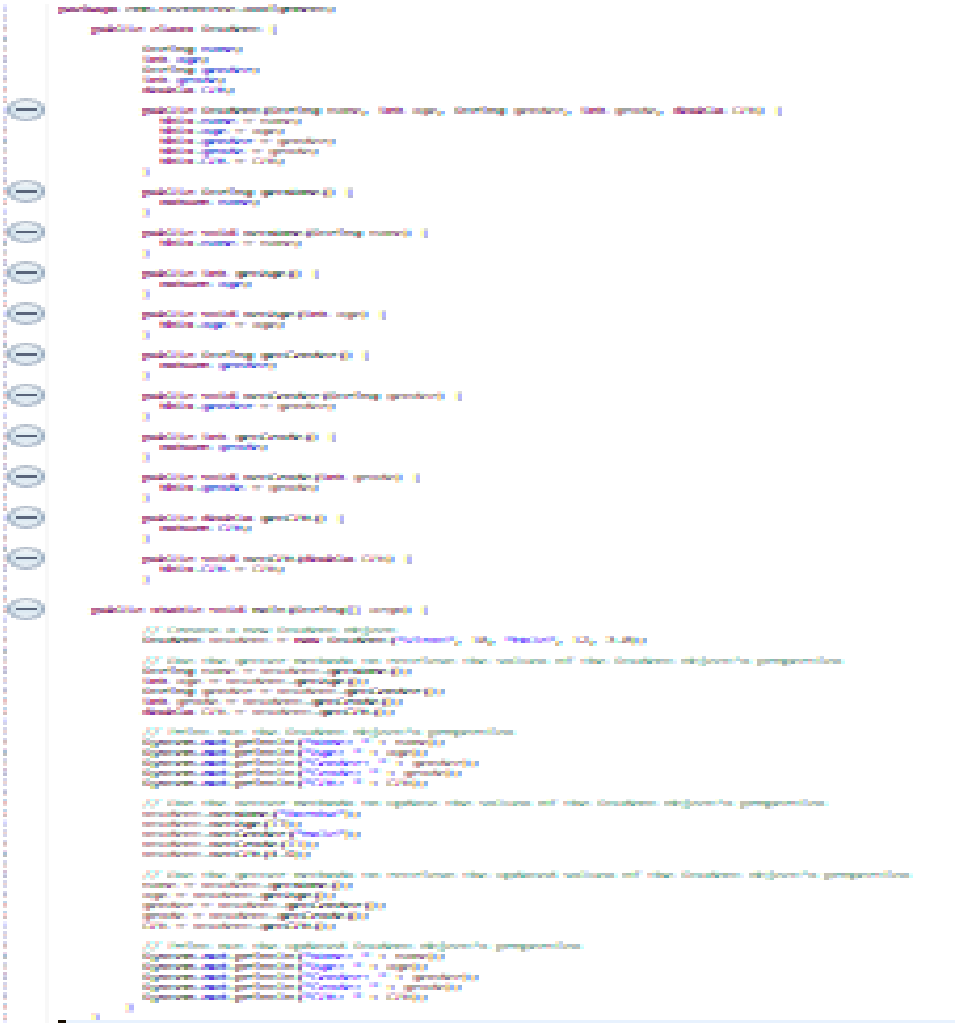
Output:

```
It cost me 600000.0 Rs
```

Assignment 02

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/6pkoLp



Output:

```
Name: Virat
Age: 18
Gender: Male
Grade: 12
GPA: 3.8
Name: Harsha
Age: 17
Gender: male
Grade: 11
GPA: 4.0
```

Assignment 02

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/Ad1WWe

```java
package com.tecnotree.assignment;

public class Circle {
    //Class Circle and Properties
    private double radius;
    private double diameter;
    private double area;

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

    //Finds area and returns it
    public double area() {
        this.area = 3.14 * this.radius * this.radius;
        return this.area;
    }

    //Finds diameter and returns it
    public double diameter() {
        this.diameter = 2 * this.radius;
        return this.diameter;
    }


    public static void main(String[] args) {
        //Creating Object
        Circle cir = new Circle(2.0d);
        double area;
        double diameter;

        //Initializing Values
        area = cir.area();
        diameter = cir.diameter();

        //Printing the Output
        System.out.println("Area of Circle is:"+area);
        System.out.println("Diameter of Circle is:"+diameter);
    }
}
```

Output:

```
Diameter of Circle is:4.0
```

Assignment 02

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/8plkkB

```
package com.tecnotree.assignment;

public class Rectangle {
    private double length;
    private double width;
    private double area;


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

    public double area() {
        this.area = this.length * this.width;
        return this.area;
    }


    public static void main(String[] args) {
        //Creating Object
        Rectangle rect = new Rectangle(2.0d,2.0d);
        double area;

        //Initializing Values
        area = rect.area();

        //Printing the Output
        System.out.println("Area of Rectangle is:"+area);
    }
}
```

Output:

```
Area of Rectangle is:4.0
```

Assignment 02

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/9OLxDX

```java
package com.tecnotree.assignment;


    public class BankAccount {

          int accountNumber;
          double accountBalance;
          String accountHolderName;
          String accountType;

          public BankAccount(int 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;
            System.out.println(amount + " deposited successfully. New balance: " + accountBalance);
          }

          public void withdraw(double amount) {
            if (amount > accountBalance) {
              System.out.println("Insufficient balance. Unable to withdraw.");
            } else {
              accountBalance -= amount;
              System.out.println(amount + " withdrawn successfully. New balance: " + accountBalance);
            }
          }
          public static void main(String[] args) {

              // Create a new BankAccount object
              BankAccount account = new BankAccount(123456, 10000.0, "Yash", "Checking");

              // Deposit some money into the account
              account.deposit(500.0);

              // Withdraw some money from the account
              account.withdraw(1000.0);

              // Try to withdraw more money than is in the account
              account.withdraw(2000.0);
            }

        }
```

Output:

```
500.0 deposited successfully. New balance: 10500.0
1000.0 withdrawn successfully. New balance: 9500.0
2000.0 withdrawn successfully. New balance: 7500.0
```

Assignment 02

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/mpbXxj

Output:

```
Name: virat
Age: 25
Address: 123 Main St
Phone number: 555-1234
Email address: virat@example.com
Name: Harsha
Age: 18
Address: 456 Main St
Phone number: 555-5678
Email address: harsha@gmail.com
```

Assignment 02

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/yo0bYb

```java
package com.technotree.assignment;

    public class Animal {

          String name;
          String species;
          int age;
          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;
          }

          public String getSpecies() {
            return species;
          }

          public void setSpecies(String species) {
            this.species = species;
          }

          public int getAge() {
            return age;
          }

          public void setAge(int age) {
            this.age = age;
          }

          public double getWeight() {
            return weight;
          }

          public void setWeight(double weight) {
            this.weight = weight;
          }
          public static void main(String[] args) {

              // Create a new Animal object
              Animal animal = new Animal("sweaty", "Dog", 3, 25.0);

              // Print out the animal's name, species, age, and weight
              System.out.println("Name: " + animal.getName());
              System.out.println("Species: " + animal.getSpecies());
              System.out.println("Age: " + animal.getAge());
              System.out.println("Weight: " + animal.getWeight());

              // Change the animal's age and weight
              animal.setAge(4);
              animal.setWeight(30.0);

              // Print out the animal's updated age and weight
              System.out.println("New age: " + animal.getAge());
              System.out.println("New weight: " + animal.getWeight());
            }

        }
```

Output:

```
Name: Sweaty
Species: Dog
Age: 3
Weight: 25.0
New age: 4
New weight: 30.0
```

Assignment 02

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/wnv889

```
package com.technotree.assignment;

    public class Triangle {

            double base;
            double height;
            double area;

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

            public void calculateArea() {
              area = 0.5 * base * height;
            }

            public double getBase() {
              return base;
            }

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

            public double getHeight() {
              return height;
            }

            public void setHeight(double height) {
              this.height = height;
              calculateArea();
            }

            public double getArea() {
              return area;
            }
            public static void main(String[] args) {

                // Create a new Triangle object with base = 5 and height = 8
                Triangle triangle = new Triangle(5, 8);

                // Print out the triangle's base, height, and area
                System.out.println("Base: " + triangle.getBase());
                System.out.println("Height: " + triangle.getHeight());
                System.out.println("Area: " + triangle.getArea());

                // Change the triangle's base to 7
                triangle.setBase(7);

                // Print out the triangle's updated base, height, and area
                System.out.println("New base: " + triangle.getBase());
                System.out.println("Height: " + triangle.getHeight());
                System.out.println("Area: " + triangle.getArea());
              }

        }
```

Output:

```
Base: 5.0
Height: 8.0
Area: 20.0
New base: 7.0
Height: 8.0
Area: 28.0
```

Assignment 02

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/VZEn4R

```java
package com.tecnotree.assignment;

    public class Employee {

          String name;
          int employeeID;
          String department;
          String jobTitle;
          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;
          }

          public int getEmployeeID() {
            return employeeID;
          }

          public void setEmployeeID(int employeeID) {
            this.employeeID = employeeID;
          }

          public String getDepartment() {
            return department;
          }

          public void setDepartment(String department) {
            this.department = department;
          }

          public String getJobTitle() {
            return jobTitle;
          }

          public void setJobTitle(String jobTitle) {
            this.jobTitle = jobTitle;
          }

          public double getSalary() {
            return salary;
          }

          public void setSalary(double salary) {
            this.salary = salary;
          }
          public static void main(String[] args) {

              // Create a new Employee object
              Employee employee = new Employee("Varsha", 12345, "Marketing", "Marketing Manager", 75000.0);

              // Print out the employee's name, ID, department, job title, and salary
              System.out.println("Name: " + employee.getName());
              System.out.println("ID: " + employee.getEmployeeID());
              System.out.println("Department: " + employee.getDepartment());
              System.out.println("Job Title: " + employee.getJobTitle());
              System.out.println("Salary: " + employee.getSalary());

              // Update the employee's salary
              employee.setSalary(80000.0);

              // Print out the employee's updated salary
              System.out.println("New Salary: " + employee.getSalary());
            }
```

Output:

```
Name: Varsha
ID: 12345
Department: Marketing
Job Title: Marketing Manager
Salary: 75000.0
New Salary: 80000.0
```

Assignment 02

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/78m3Lj

```
package com.tecnotree.assignment;

    public class Address {

        String street;
        String city;
        String state;
        String zipCode;
        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;
        }

        public String getCity() {
          return city;
        }

        public void setCity(String city) {
          this.city = city;
        }

        public String getState() {
          return state;
        }

        public void setState(String state) {
          this.state = state;
        }

        public String getZipCode() {
          return zipCode;
        }

        public void setZipCode(String zipCode) {
          this.zipCode = zipCode;
        }

        public String getCountry() {
          return country;
        }

        public void setCountry(String country) {
          this.country = country;
        }
        public static void main(String[] args) {

            // Create a new Address object
            Address address = new Address("123 Main St", "Mysore", "Karnataka", "12345", "India");

            // Print out the address's street, city, state, zip code, and country
            System.out.println("Street: " + 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());

            // Update the address's zip code
            address.setZipCode("67890");

            // Print out the address's updated zip code
            System.out.println("New Zip Code: " + address.getZipCode());
        }
```

Output:

```
Street: 123 Main St
City: Mysore
State: Karnataka
Zip Code: 12345
Country: India
New Zip Code: 67890
```

Assignment 02

Assignment 02

Assignment 02

Assignment 02

Assignment 02

Assignment 02

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