

Question 1: Create a class FRUIT which has data members color, taste and price. Also create a method display() which will print values of FRUIT object. Create three objects of FRUIT class and call their display() methods.

Code: *Fruit.java*

```
package com.fruit;
```

```
public class Fruit {
```

```
    private String color;
```

```
    private String taste;
```

```
    private double price;
```

```
    public String getColor() { return color; }
```

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

```
    public String getTaste() { return taste; }
```

```
    public void setTaste(String taste) { this.taste = taste; }
```

```
    public double getPrice() { return price; }
```

```
    public void setPrice(double price) { this.price = price; }
```

```
    public void display(){
```

```
        System.out.println("Color: " + color);
```

```
        System.out.println("Taste: " + taste);
```

```
        System.out.println("Price: " + price + "\n");
```

```
    }
```

Code: *Main.java*

```
package com.fruit;

public class Main {

    public static void main(String[] args) {

        Fruit mango = new Fruit();
        mango.setColor("Yellow");
        mango.setTaste("Sweet");
        mango.setPrice(50.0);

        Fruit apple = new Fruit();
        apple.setColor("Red");
        apple.setTaste("Sweet");
        apple.setPrice(100.0);

        Fruit grapes = new Fruit();
        grapes.setColor("Green");
        grapes.setTaste("Sour");
        grapes.setPrice(60.0);

        System.out.println("Mango Details:");
        mango.display();
        System.out.println("Apple Details:");
        apple.display();
        System.out.println("Grapes Details:");
        grapes.display();
    }
}
```

Output: "C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.2.1\lib\idea_rt.jar=49785" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath "D:\UniMaterial\LAB\sem 3\Week 8\Que1\target\classes" com.fruit.Main

Mango Details:

Color: Yellow

Taste: Sweet

Price: 50.0

Apple Details:

Color: Red

Taste: Sweet

Price: 100.0

Grapes Details:

Color: Green

Taste: Sour

Price: 60.0

Process finished with exit code 0

Question 2: Create a class FRUIT which has data members color, taste and price. Also create a method display() which will print values of FRUIT object. Create three objects of FRUIT class and call their display() methods.

Code: *Fruit.java*

```

package com.fruitseller;
public class Fruit {
    private String color;
    private String taste;
    private double price;

    public void setDetails(String color, String taste, double price) {
        this.color = color;
        this.taste = taste;
        this.price = price;
    }
    public void display() {
        System.out.println("Color: " + color);
        System.out.println("Taste: " + taste);
        System.out.println("Price: " + price + "\n");
    }
}

```

Main.java

```

package com.fruitseller;

public class Main {
    public static void main(String[] args) {
        Fruit mango = new Fruit();
        mango.setDetails("Yellow", "Sweet", 50.0);
        System.out.println("Mango Details:");
        mango.display();
    }
}

```

Output:

```

"C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program
Files\JetBrains\IntelliJ IDEA 2025.2.1\lib\idea_rt.jar=59024" -Dfile.encoding=UTF-8 -
Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath "D:\Uni
Material\LAB\sem 3\Week 8\Que2\target\classes" com.fruitseller.Main

```

Mango Details:

Color: Yellow

Taste: Sweet

Price: 50.0

Process finished with exit code 0

Question 3: In previous question, set the values of using color, taste and price using Constructor.

Code: *Fruit.java*

```
package com.fruit;
public class Fruit {
    private String color;
    private String taste;
    private double price;
    Fruit (String color, String taste, double price) {
        this.color = color;
        this.taste = taste;
        this.price = price;
    }
    public void display(){
        System.out.println("Color: " + color);
        System.out.println("Taste: " + taste);
        System.out.println("Price: " + price + "\n");
    }
}
```

Main.java

```
package com.fruit;
public class Main {
    public static void main(String[] args) {
        Fruit mango = new Fruit("Yellow", "Sweet", 50.0);
        Fruit apple = new Fruit("Red", "Sweet", 100.0);
        System.out.println("Mango Details:");
        mango.display();
    }
}
```

Output: "C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.2.1\lib\idea_rt.jar=49802" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath "D:\Uni Material\LAB\sem 3\Week 8\Que3\target\classes" com.fruit.Main

Mango Details:

Color: Yellow

Taste: Sweet

Price: 50.0

Process finished with exit code 0

Question 4: Add one-argument constructor and two-argument constructor in addition to default constructor in FRUIT class.

Code:

Fruit.java

```
package com.fruit;
```

```
public class Fruit {  
    private String color;  
    private String taste;  
    private double price;
```

```
    Fruit () {  
        this.color = "Unknown";  
        this.taste = "Unknown";  
        this.price = 0.0;  
    }
```

```
    Fruit (String color){  
        this.color = color;  
    }
```

```
    Fruit (String color, String taste) {  
        this.color = color;  
        this.taste = taste;  
    }
```

```
    public String getColor() { return color; }  
    public void setColor(String color) { this.color = color; }  
    public String getTaste() { return taste; }  
    public void setTaste(String taste) { this.taste = taste; }  
    public double getPrice() { return price; }  
    public void setPrice(double price) { this.price = price; }
```

```
    public void display(){  
        System.out.println("Color: " + color);  
        System.out.println("Taste: " + taste);  
        System.out.println("Price: " + price + "\n");  
    }  
}
```

Code: *Main.java*

```
package com.fruit;
public class Main {
    public static void main(String[] args) {
        Fruit chalta = new Fruit();
        Fruit mango = new Fruit("Yellow");
        mango.setTaste("Sweet");
        mango.setPrice(75.00);
        Fruit apple = new Fruit("Red", "Sweet");
        apple.setPrice(100);
        System.out.println("Chalta Details:");
        chalta.display();
        System.out.println("Mango Details:");
        mango.display();
        System.out.println("Apple Details:");
        apple.display();
    }
}
```

Output: "C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.2.1\lib\idea_rt.jar=49889" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath "D:\Uni Material\LAB\sem 3\Week 8\Que4\target\classes" com.fruit.Main

Chalta Details:

Color: Unknown

Taste: Unknown

Price: 0.0

Mango Details:

Color: Yellow

Taste: Sweet

Price: 75.0

Apple Details:

Color: Red

Taste: Sweet

Price: 100.0

Process finished with exit code 0

Question 5: Use the concept of constructor-chaining in the previous question using this().

Code: *Fruit.java*

```
package com.fruit;

public class Fruit {

    private String color;
    private String taste;
    private double price;

    Fruit() { this("Unknown","Unknown",0); }
    Fruit (String color) { this(color,"Unknown",0); }
    Fruit (String color, String taste) { this(color,taste,0); }
    Fruit (String color, String taste, double price) {
        this.color = color;
        this.taste = taste;
        this.price = price;
    }

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

    public String getTaste() { return taste; }
    public void setTaste(String taste) { this.taste = taste; }

    public double getPrice() { return price; }
    public void setPrice(double price) { this.price = price; }

    public void display(){
        System.out.println("Color: " + color);
        System.out.println("Taste: " + taste);
        System.out.println("Price: " + price + "\n");
    }
}
```


Code: *Main.java*

```
package com.fruit;

public class Main {

    public static void main(String[] args) {

        Fruit chalta = new Fruit();

        Fruit grapes = new Fruit("Green");
        grapes.setTaste("Sour");
        grapes.setPrice(65);

        Fruit apple = new Fruit("Red", "Sweet");
        apple.setPrice(102);

        Fruit mango = new Fruit("Yellow", "Sweet", 65);

        System.out.println("Chalta Details:");
        chalta.display();

        System.out.println("Apple Details:");
        apple.display();

        System.out.println("Grapes Details:");
        grapes.display();

        System.out.println("Mango Details:");
        mango.display();
    }
}
```

Output:

```
"C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ  
IDEA 2025.2.1\lib\idea_rt.jar=49910" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8  
-Dsun.stderr.encoding=UTF-8 -classpath "D:\Uni Material\LAB\sem 3\Week  
8\Que5\target\classes" com.fruit.Main
```

Chalta Details:

Color: Unknown

Taste: Unknown

Price: 0.0

Apple Details:

Color: Red

Taste: Sweet

Price: 102.0

Grapes Details:

Color: Green

Taste: Sour

Price: 65.0

Mango Details:

Color: Yellow

Taste: Sweet

Price: 65.0

Process finished with exit code 0

OPTIONAL

Question 6: Create a class CAR with the following details:

Data members: model, colour, price

Member Methods:

- setDetails() – to set values of all data members using setters.
- getDetails() – to get values of all data members using getters.
- display() – to print all details of the car.

Requirement:

1. Implement default constructor to initialize default values.
2. Implement a parameterized constructor (with one argument) to set only model.
3. Implement another parameterized constructor (with two arguments) to set model and colour.
4. Use constructor chaining to reduce code redundancy.
5. Create three objects of CAR class using:
 - Default constructor
 - One-argument constructor
 - Two-argument constructor
6. Set price for each object using the setDetails() method.
7. Call the display() method for each object.

Code: Main.java

```
package com.car;
```

```
public class Main {  
    public static void main(String[] args) {  
  
        CAR car1 = new CAR();  
        car1.setPrice(0);  
        car1.display();  
  
        CAR car2 = new CAR("Tesla Model 3");  
        car2.setPrice(55000);  
        car2.display();  
  
        CAR car3 = new CAR("BMW X5", "Black");  
        car3.setPrice(75000);  
        car3.display();  
    }  
}
```

Code: CAR.java

```
package com.car;

public class CAR {
    private String model;
    private String color;
    private double price;

    public CAR() {
        this("Unknown", "White", 0.0);
    }

    public CAR(String model) {
        this(model, "White", 0.0);
    }

    public CAR(String model, String color) {
        this(model, color, 0.0);
    }

    public CAR(String model, String color, double price) {
        this.model = model;
        this.color = color;
        this.price = price;
    }

    public void setModel(String model) { this.model = model; }
    public void setColor(String color) { this.color = color; }
    public void setPrice(double price) { this.price = price; }

    public String getModel() { return model; }
    public String getColor() { return color; }
    public double getPrice() { return price; }

    public void setDetails(String model, String color, double price) {
        this.model = model;
        this.color = color;
        this.price = price;
    }

    public String getDetails() {
        return "Model: " + model + ", Color: " + color + ", Price: " + price;
    }
}
```

```
public void display() {  
    System.out.println("Model: " + model);  
    System.out.println("Color: " + color);  
    System.out.println("Price: " + price);  
    System.out.println();  
}  
}
```

Output: "C:\Program Files\Java\jdk-24\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.2.1\lib\idea_rt.jar=49941" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath "D:\Uni Material\LAB\sem 3\Week 8\Ques6\target\classes" com.car.Main

Model: Unknown

Color: White

Price: 0.0

Model: Tesla Model 3

Color: White

Price: 55000.0

Model: BMW X5

Color: Black

Price: 75000.0

Process finished with exit code 0