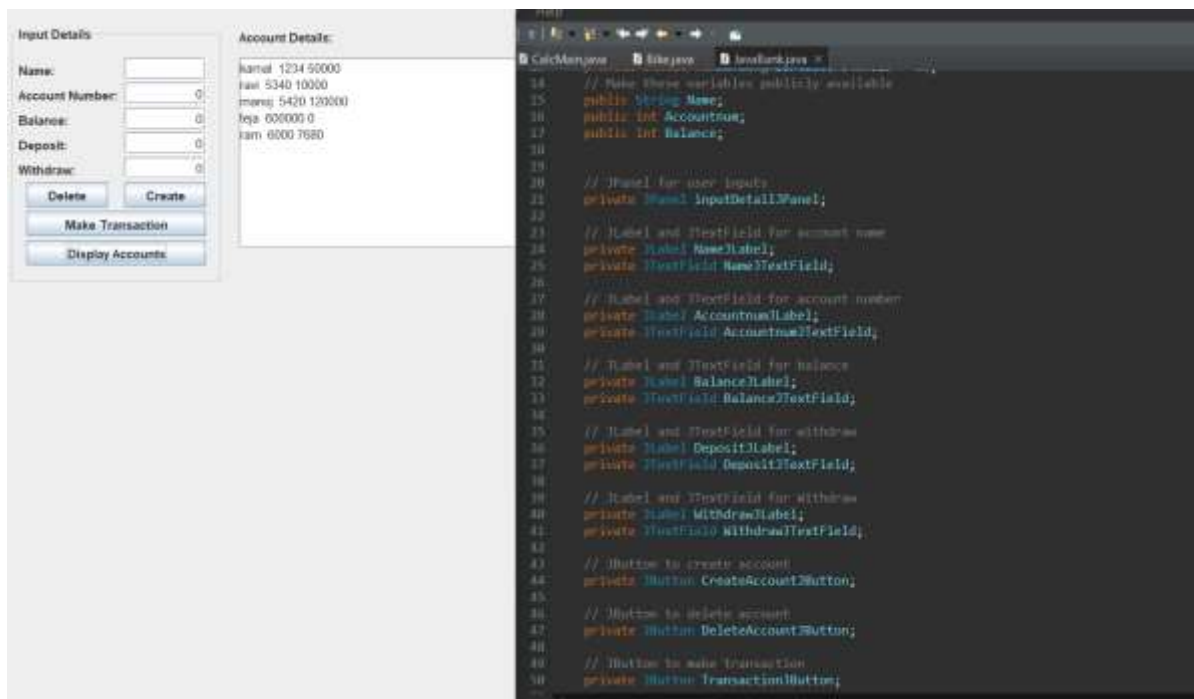


2.1practise

1. Explore JavaBank. Record your observations. What happens when you: • Display Accounts • Create Accounts • Delete Accounts • Make a Withdrawal Transaction • Make a Deposit Transaction • Can you display accounts before any are created? • Can you create an account without entering anything in the fields? • Can you make a withdrawal transaction with no amount in the Withdrawal field? • Can you do a deposit transaction with no amount in the Deposit field? • What other questions do you have about the JavaBank application?

A.



2. Import the file bikeproject.zip to a location on your computer and answer the following questions.

a. Give an example of a primitive data type that is used to store fields within a class.

b. Give an example of where String concatenation takes place.

c.

What are the names of the objects created in this program?

d. How many constructors does each class have?

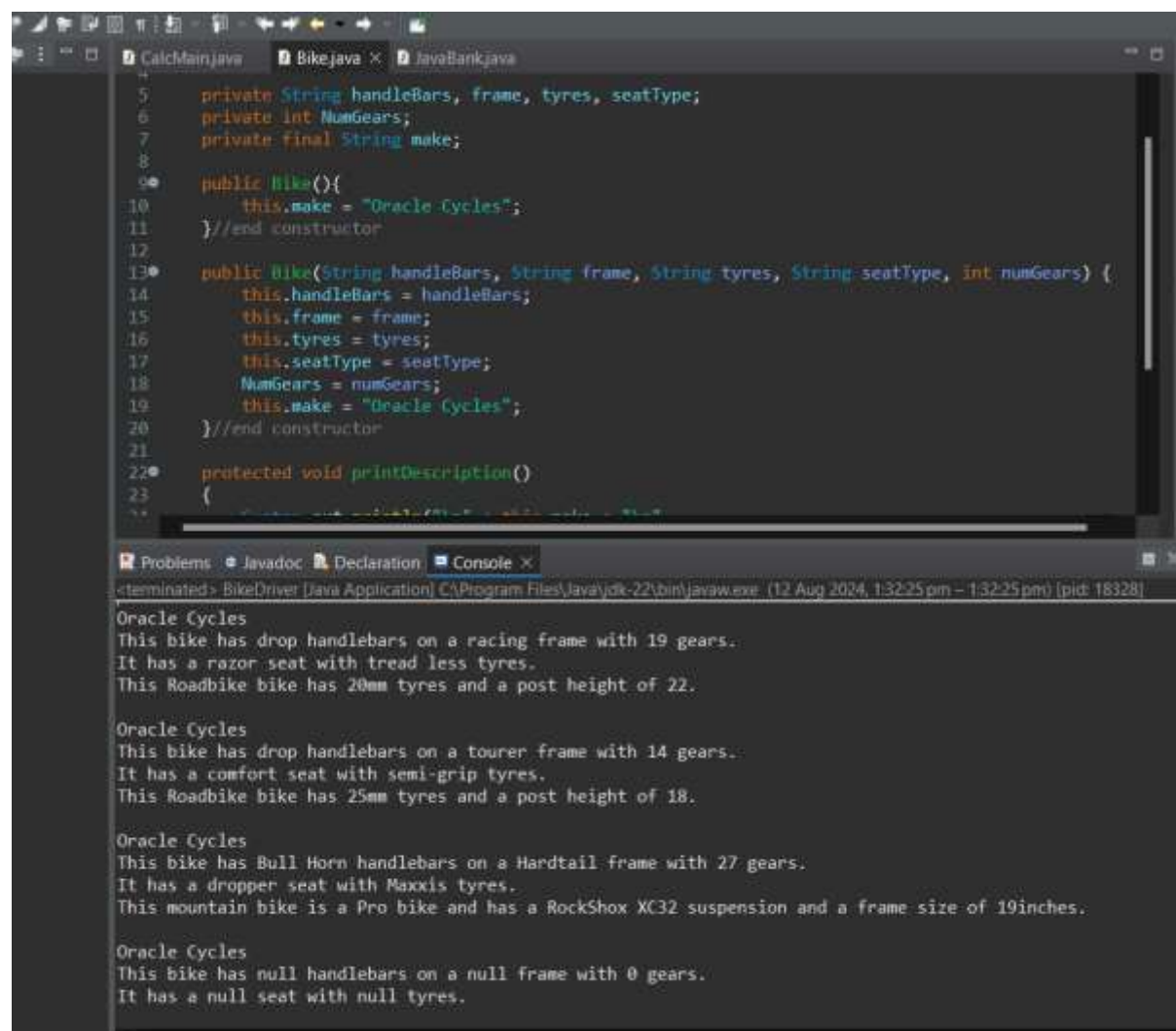
e. Inheritance is part of this program. Identify the Super and subclasses from this program.

f.

Mountain bikes and road bikes can be constructed either by using the default values (standard bike) or customized to

the client's needs. Using the following table identify sample values assigned to one of each type of standard bike:

A.



The screenshot shows the Eclipse IDE with the `Bike.java` file open. The code defines a `Bike` class with private attributes `handleBars`, `frame`, `tyres`, `seatType`, `NumGears`, and `make`. It includes a default constructor, a parameterized constructor, and a `printDescription` method. The console output shows the results of running the `BikeDriver` application, displaying details for four different bike instances: a racing bike with 19 gears, a tourer bike with 14 gears, a mountain bike with 27 gears, and a standard bike with 0 gears.

```
5 private String handleBars, frame, tyres, seatType;
6 private int NumGears;
7 private final String make;
8
9 public Bike(){
10     this.make = "Oracle Cycles";
11 } //end constructor
12
13 public Bike(String handleBars, String frame, String tyres, String seatType, int numGears) {
14     this.handleBars = handleBars;
15     this.frame = frame;
16     this.tyres = tyres;
17     this.seatType = seatType;
18     NumGears = numGears;
19     this.make = "Oracle Cycles";
20 } //end constructor
21
22 protected void printDescription()
23 {
24     // ... (code for printDescription method) ...
25 }
```

Oracle Cycles
This bike has drop handlebars on a racing frame with 19 gears.
It has a razor seat with tread less tyres.
This Roadbike bike has 20mm tyres and a post height of 22.

Oracle Cycles
This bike has drop handlebars on a tourer frame with 14 gears.
It has a comfort seat with semi-grip tyres.
This Roadbike bike has 25mm tyres and a post height of 18.

Oracle Cycles
This bike has Bull Horn handlebars on a Hardtail frame with 27 gears.
It has a dropper seat with Maxxis tyres.
This mountain bike is a Pro bike and has a RockShox XC32 suspension and a frame size of 19inches.

Oracle Cycles
This bike has null handlebars on a null frame with 0 gears.
It has a null seat with null tyres.

3. Working with the Calculator program.

a. Download, and then unzip the Calculator.zip file from this lesson's Reference Materials.

b. From Eclipse, import the Calculator.jar file:

i. From the File Menu, Select Import

ii. Expand General

iii. Select Existing Projects into Workspace

iv. Click Next

From the File Menu, Select Import

Expand General

Select Existing Projects into Workspace

Click Next

v. Choose "Select Archive File"

vi. Click Browse, go to the location of and select the Calculator jar. file, and then click Open

vii. Click Finish.

c. Once imported – run the application (CalcMain is the driver).

d. Determine what Calculator does and how it works – investigate.

e. Add multiplication and subtraction buttons to the application.

f. Test to make sure all functionality works as you expect.

g. Export updated Calculator to a "Runnable" JAR file.

h. Go to the location where you put the runnable JAR and double click it to run the application.

A.

