

Name:_____ (PRINT CLEARLY)

Lab Section:_____ Grader:_____

Quiz 2C – November 1

CS 2102 B19

Use the code in the accompanying handout to help you answer these questions.

1. (4 points) A `TourBus` is a kind of `Bus` that keeps track of the name of the touring company that operates the bus and the cost of riding the bus. A tour bus is considered luxurious if it has one or more TVs so that the passengers can watch movies on the trip. A tour bus always has AC and always has exactly 50 seats.

```
public class TourBus extends Bus {
    String company;
    int numTVs;

    public TourBus (int seats, int mileage,
        String company, int numTVs) {
        this.company = company;
        this.numTVs = numTVs;
    }

    public boolean isLuxurious() {
        return this.numTVs > 0;
    }
}
```

There is a line of code missing from this class. Write it below, and explain where in this class it goes and what it does.

ANS: The line of missing code is

```
super(true, 50, mileage);
```

This is the first line of the constructor body, and it calls the constructor in the superclass.

Grading:

+1 for specifying the `super()` constructor

+1 for the correct parameters (including `true` as the first parameter and `50` as the second parameter; -0.5 if they miss one parameter)

+1 for correctly specifying where it goes

+1 for correctly specifying what it does

Do not penalize for any additional information provided.

2. (3 points) Does the `TourBus` class use overloading (yes or no)? If the answer is yes, describe how the `TourBus` class uses overloading. If the answer is no, provide a general definition of overloading.

ANS: No, the `TourBus` class does not use overloading. Overloading means we have the same constructor or method used more than once but with different parameters, so Java can distinguish between the two based on the parameters passed into it.

1.5 points: Correctly identifies that overloading is not used

1.5 points: Correct definition of overloading

3. (3 points) Does the `TourBus` class use overriding (yes or no)? If the answer is yes, describe how the `TourBus` class uses overriding. If the answer is no, provide a general definition of overriding.

No, the `TourBus` class does not use overriding. Overriding is where a subclass defines a method with the same signature as its superclass.

1.5 points: Correctly identifies that overriding is not used.

1.5 points: Correct definition of overriding.