SE1021 Half Exam 4   Name:

Use only your pen/pencil/eraser (for example, no note-sheet). Review all questions before you get started. The exam is printed double-sided. Show all work. You do not need to comment your code.

1. (25 points) In the code on the right below, the method f() may throw a `FileNotFoundException` or an `InputMismatchException`.

a. ***Circle all that apply:*** the statement "A" will print when
   i. `f()` throws a `FileNotFoundException`
   ii. `f()` throws an `InputMismatchException`
   iii. `f()` does not throw an exception
b. ***Circle all that apply:*** the statement "B" will print when
   i. `f()` throws a `FileNotFoundException`
   ii. `f()` throws an `InputMismatchException`
   iii. `f()` does not throw an exception
c. ***Circle all that apply:*** the statement "C" will print when
   i. `f()` throws a `FileNotFoundException`
   ii. `f()` throws an `InputMismatchException`
   iii. `f()` does not throw an exception
d. ***Circle all that apply:*** the statement "D" will print when
   i. `f()` throws a `FileNotFoundException`
   ii. `f()` throws an `InputMismatchException`
   iii. `f()` does not throw an exception

```
try {
    f();
    System.out.println("A");
} catch (FileNotFoundException
e) {
    System.out.println("B");
} finally {
    System.out.println("C");
}
System.out.println("D");
```

2. (10 points) In the code in problem 1, the compiler does not require that the `InputMismatchException` be caught, but does require the `FileNotFoundException` to be caught. ***Describe*** the difference between the `InputMismatchException` and the `FileNotFoundException`'s parents in the class hierarchy that the compiler considers when making this decision.

3. (10 points) ***Describe*** a risk associated with having a catch block with the header `catch(Exception e)` instead of the header on the catch block in problem 1.

4. (5 points) ***Describe*** why we do not usually catch NullPointerExceptions.

5. (25 points) Consider the class diagram:
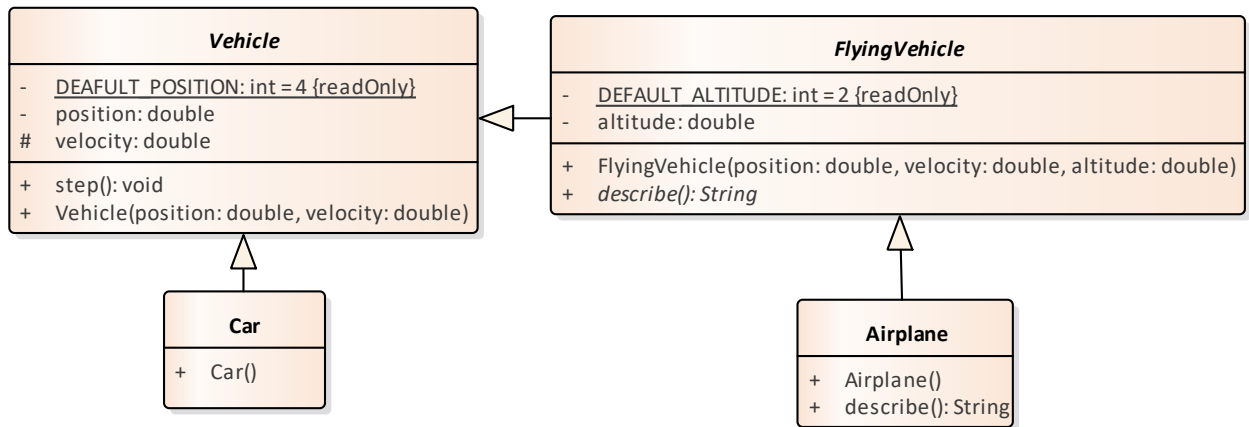
Write the complete `FlyingVehicle` class. Note that Vehicle, FlyingVehicle, and FlyingVehicle.describe() are in italics.

6. (10 points) **Give an example** of an Error and explain why you would normally not catch it.

7. (10 points) **Edit** the FXML for the Button so that it will call the method `void activate(ActionEvent e)` when it is called.

```
<Button text="Activate"                                      >
```

8. (5 points) Edit the FXML for the Text so that its text can be changed by editing the variable `Text displayText` in the controller.

```
<Text text="(Output will display here)"                      >
```