

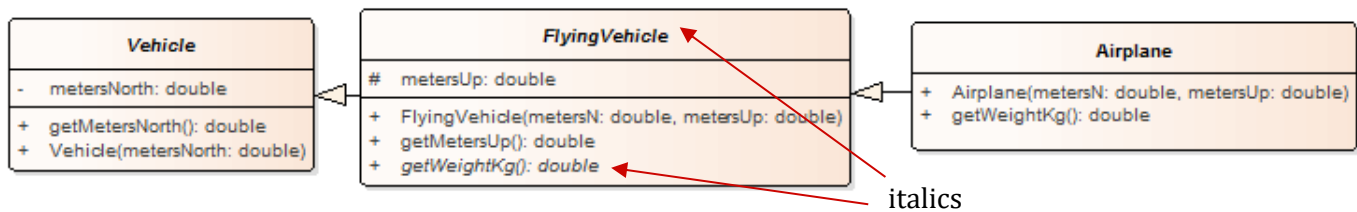
Use only your pen/pencil/eraser (for example, no note-sheet). Review all questions before you get started. The exam is printed double-sided. Show all work. You do not need to comment your code.

1. (50 points) Consider this code:

```
private void findNeededPacks() {
    Scanner in = new Scanner(System.in);
    findNeededPacks(in);
    System.out.println("Here 4");
}
private void findNeededPacks(Scanner in) {
    System.out.print("Enter number of screws needed: ");
    try {
        int screws = in.nextInt();
        System.out.print("Enter # of screws per package:");
        int packSize = in.nextInt();
        System.out.println("Packages needed: " +
            (screws+(packSize-1))/packSize);
    } catch (ArithmeticException e) {
        System.out.println("Here 1");
    } finally {
        System.out.println("Here 2");
    }
    System.out.println("Here 3");
}
```

- a. **Complete** an example of what the user could enter to cause Here 1 through Here 4 to all print. **Explain** why you chose this input.
Enter number of screws needed:
Enter # of screws per package:
- b. **Complete** an example of what the user could enter to cause Here 3 to print, but not Here 1. **Explain** why you chose this input.
Enter number of screws needed:
Enter # of screws per package:
- c. **Complete** an example of what the user could enter to cause neither Here 1 nor Here 3 to print. **Explain** why you chose this input.
Enter number of screws needed:
Enter # of screws per package:
- d. **Describe** a situation in which Here 2 would not print when the program runs
- e. **Describe** a situation in which Here 4 would not print when the program runs

2. (40 points) **Implement** the FlyingVehicle class by writing the complete Java code for the class. You do not need to include package or import statements or comments.



3. (10 points) The method `getResource` throws `IOException`, which is an `Exception` and not a `RuntimeException`.

- a. **Edit** the code to handle the exception by throwing the exception to the method that called this one.

```

@Override
public void start(Stage primaryStage) {
    Parent root = FXMLLoader.load(getClass().getResource("simpleGui.fxml"));
    primaryStage.setTitle("Simple GUI");
    primaryStage.setScene(new Scene(root,400,300));
    primaryStage.show();
}
  
```

- a. **Circle one:** `IOException` is a **checked** / **unchecked** exception.
 b. **Circle one:** Handling the exception **is** / **is not** required for the code to compile.