OODP– Session 4c

Session times

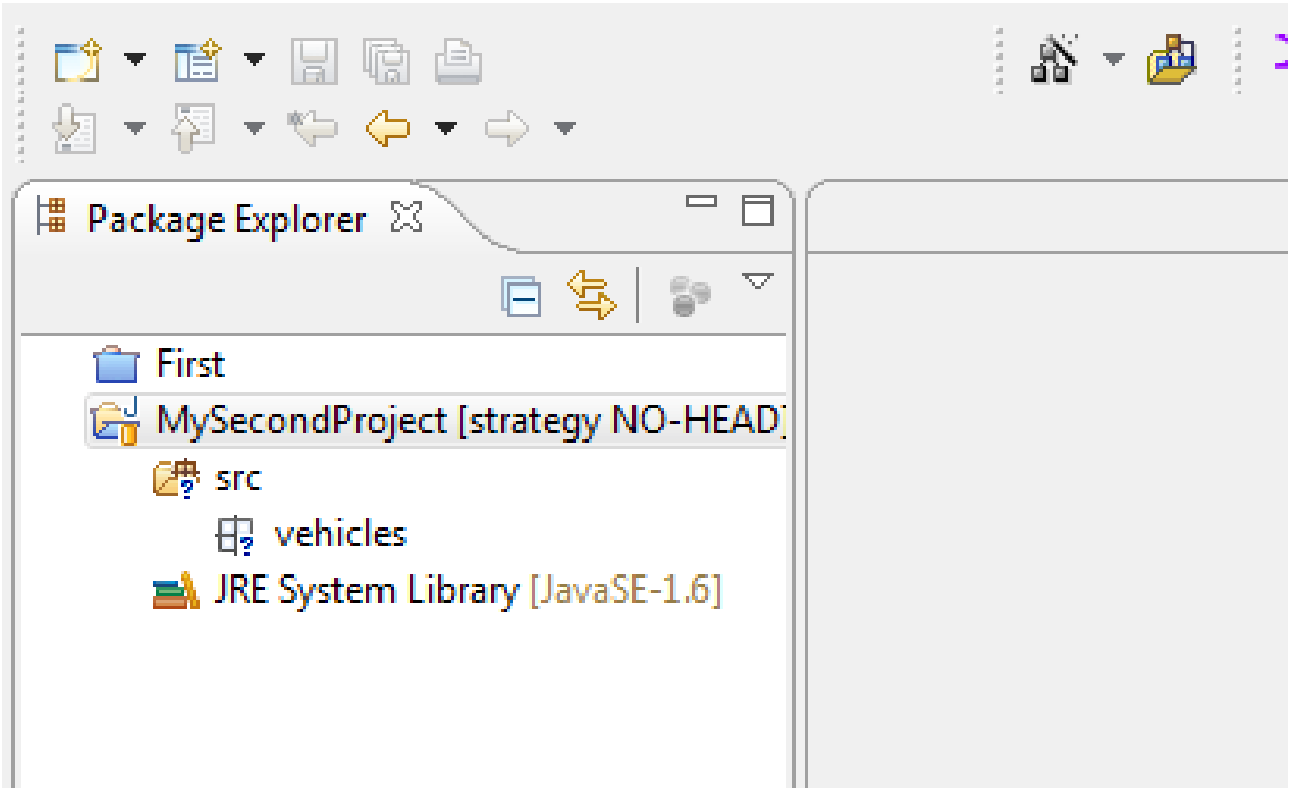
PT group 1 – Monday	18:00-21:00	room: Malet 403
PT group 2 – Thursday	18:00-21:00	room: Malet 407
FT - Tuesday	13:30-17:00	room: Malet 404

Email: oded@dcs.bbk.ac.uk

Web Page: http://www.dcs.bbk.ac.uk/~oded

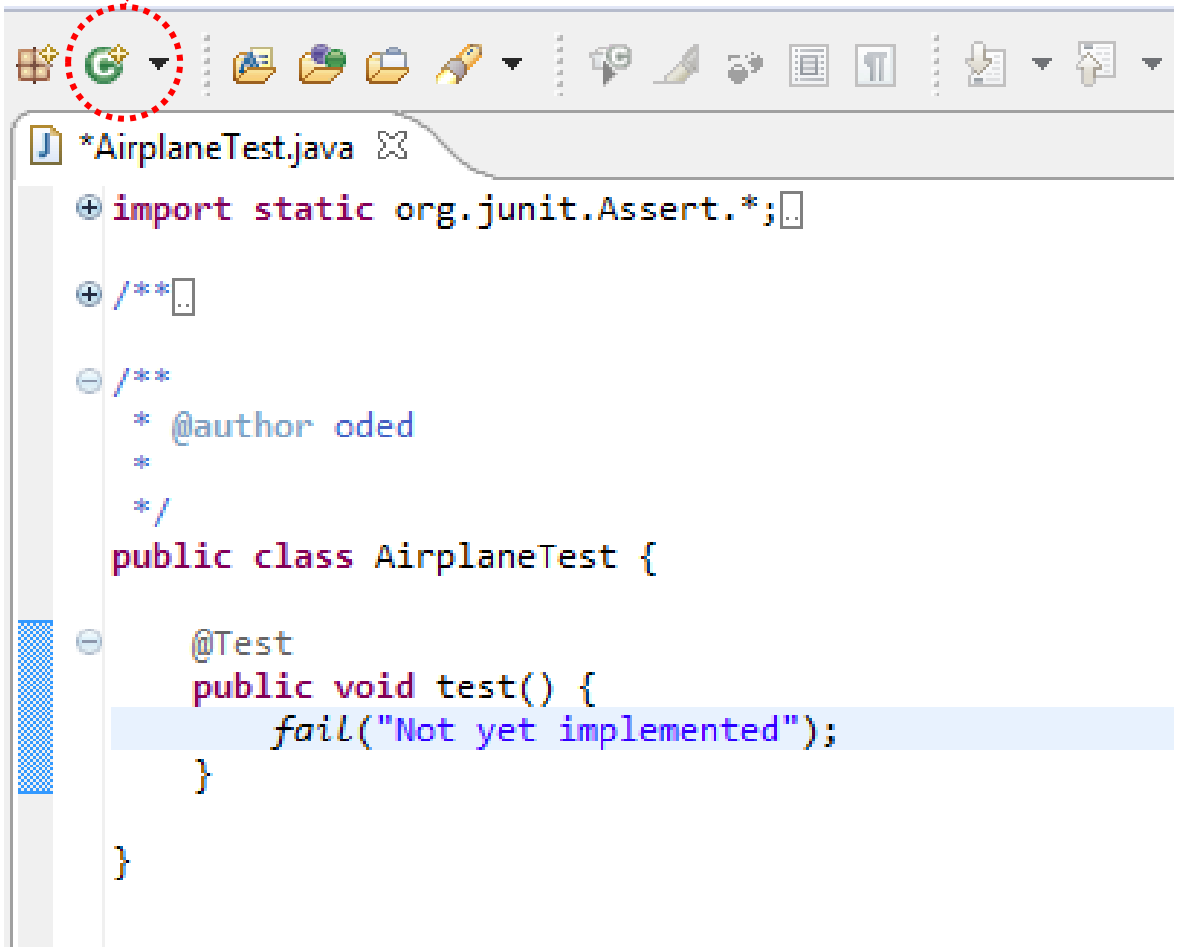
Visiting Hours: Tuesday 17:00 to 19:00

Start a new project



New test

Use this to create test

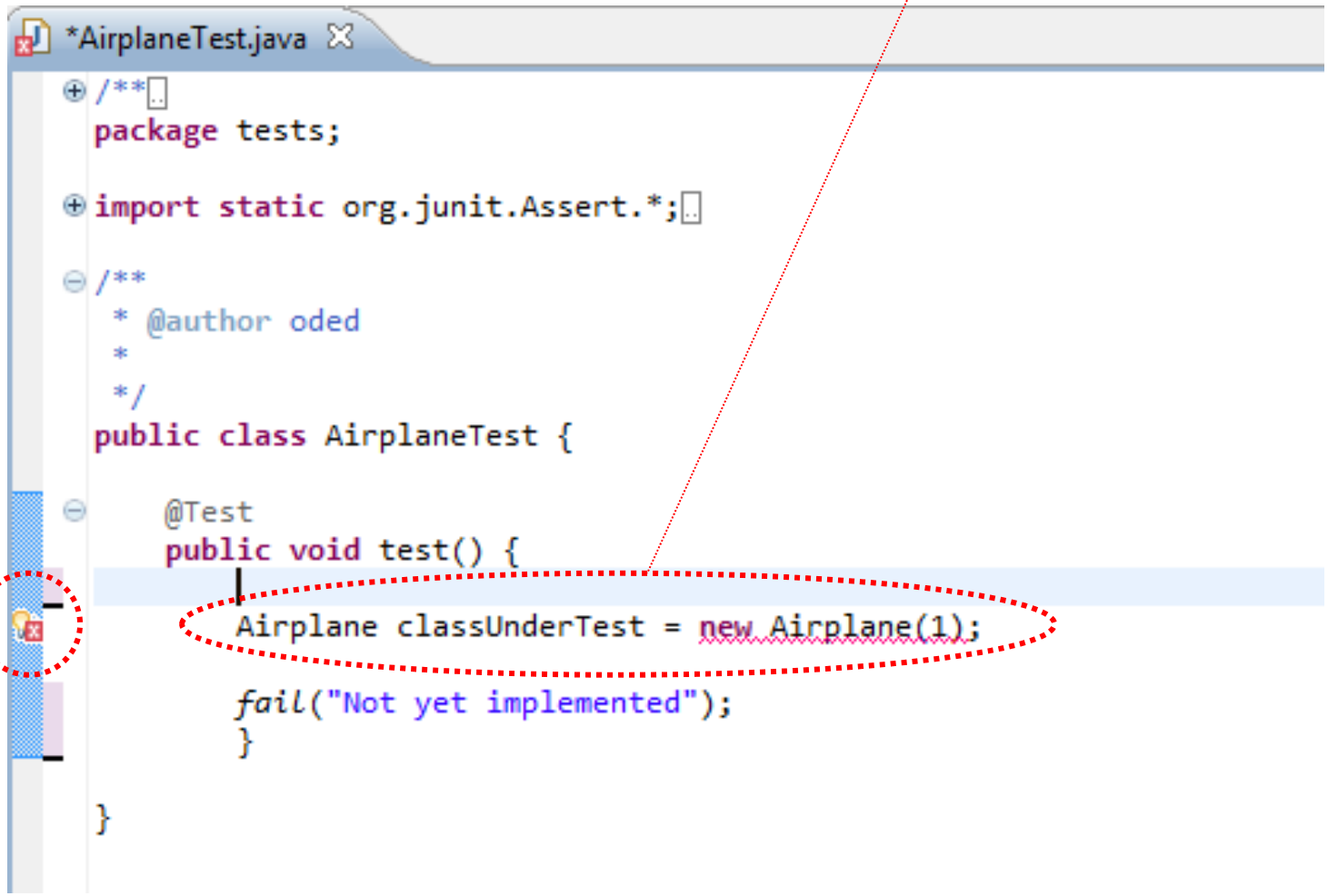


1. check that the test fails if it does, then commit

Preparing for a new class

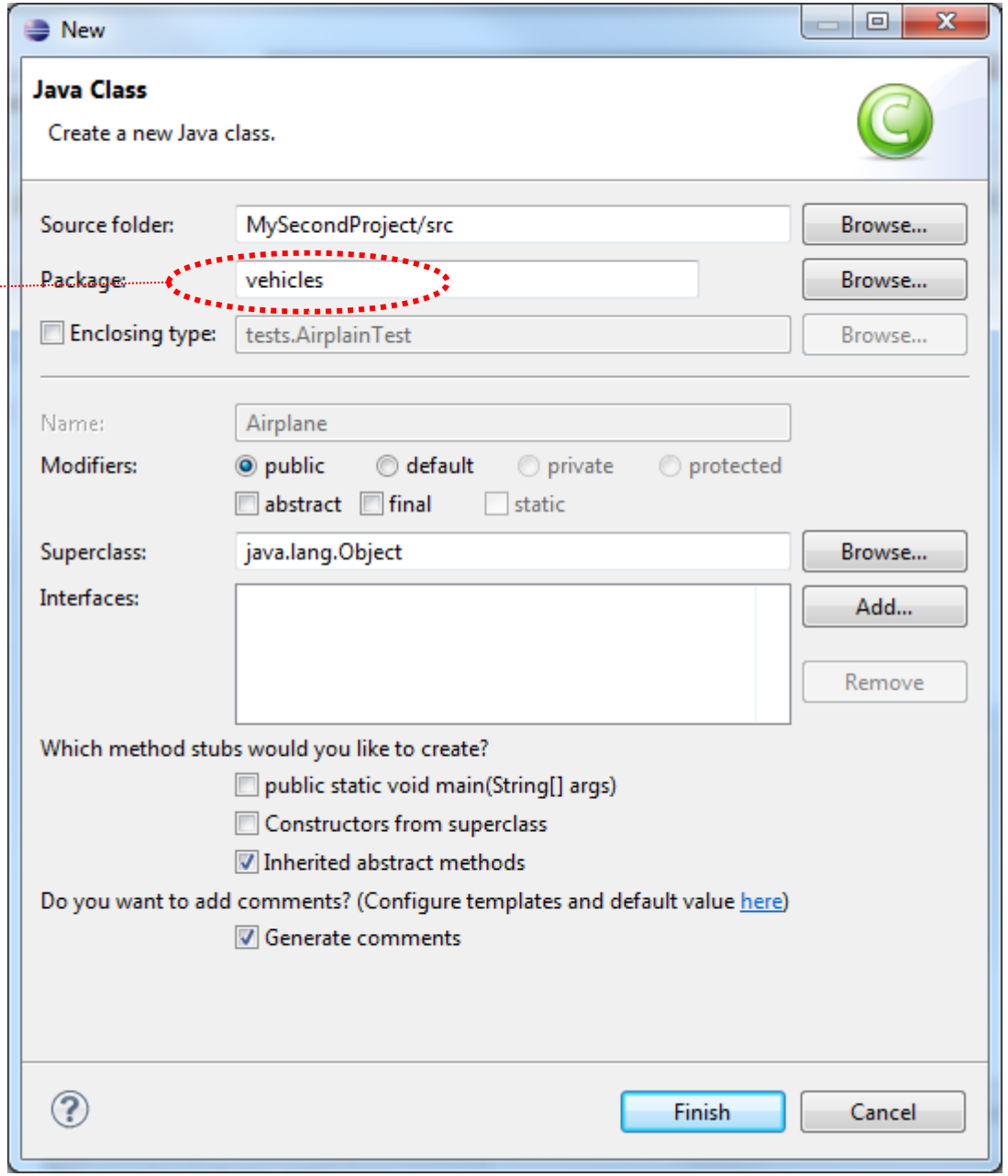
New Code

Use this to create *Airplane* class



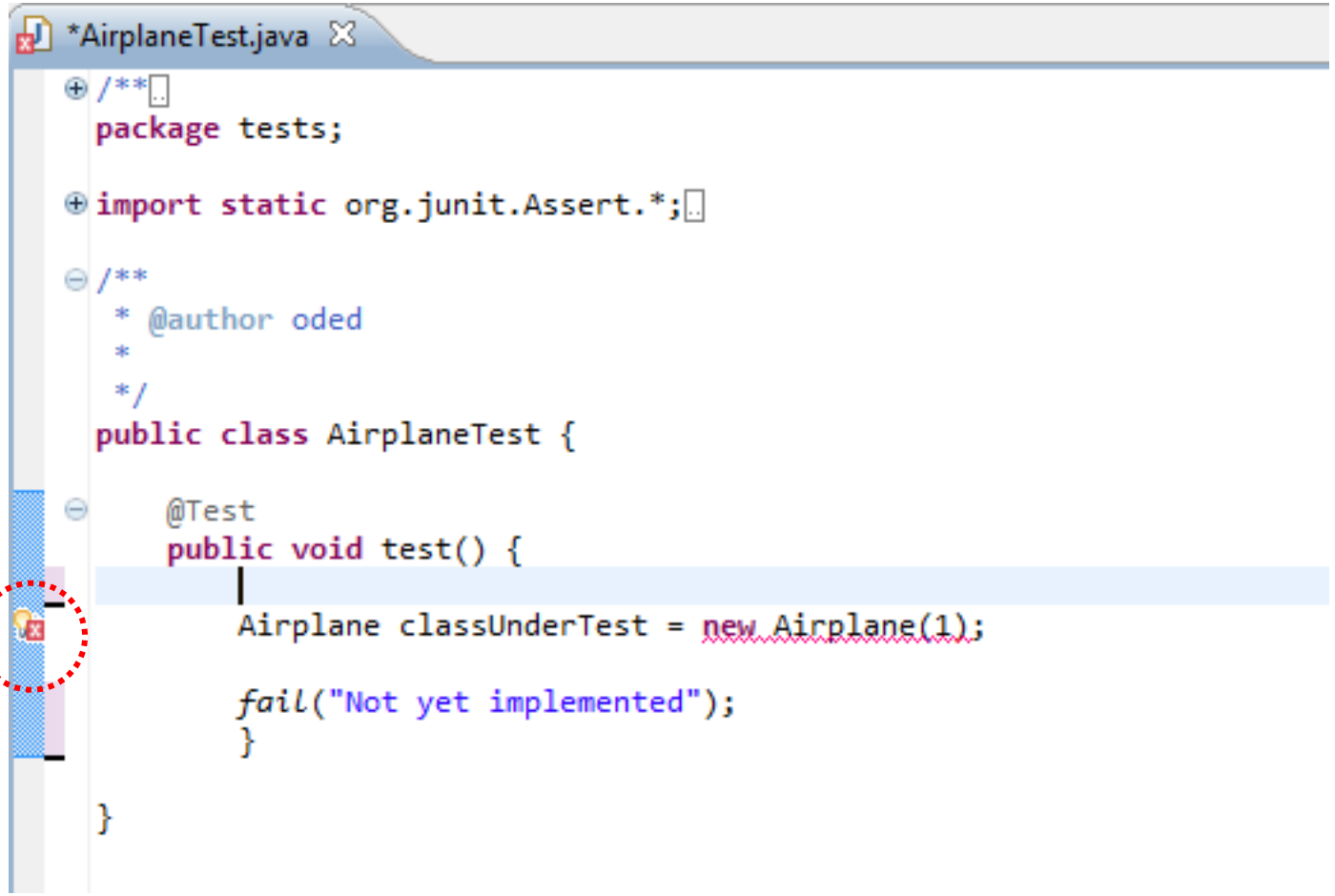
New class

Make in proper Package



Creating the constructor

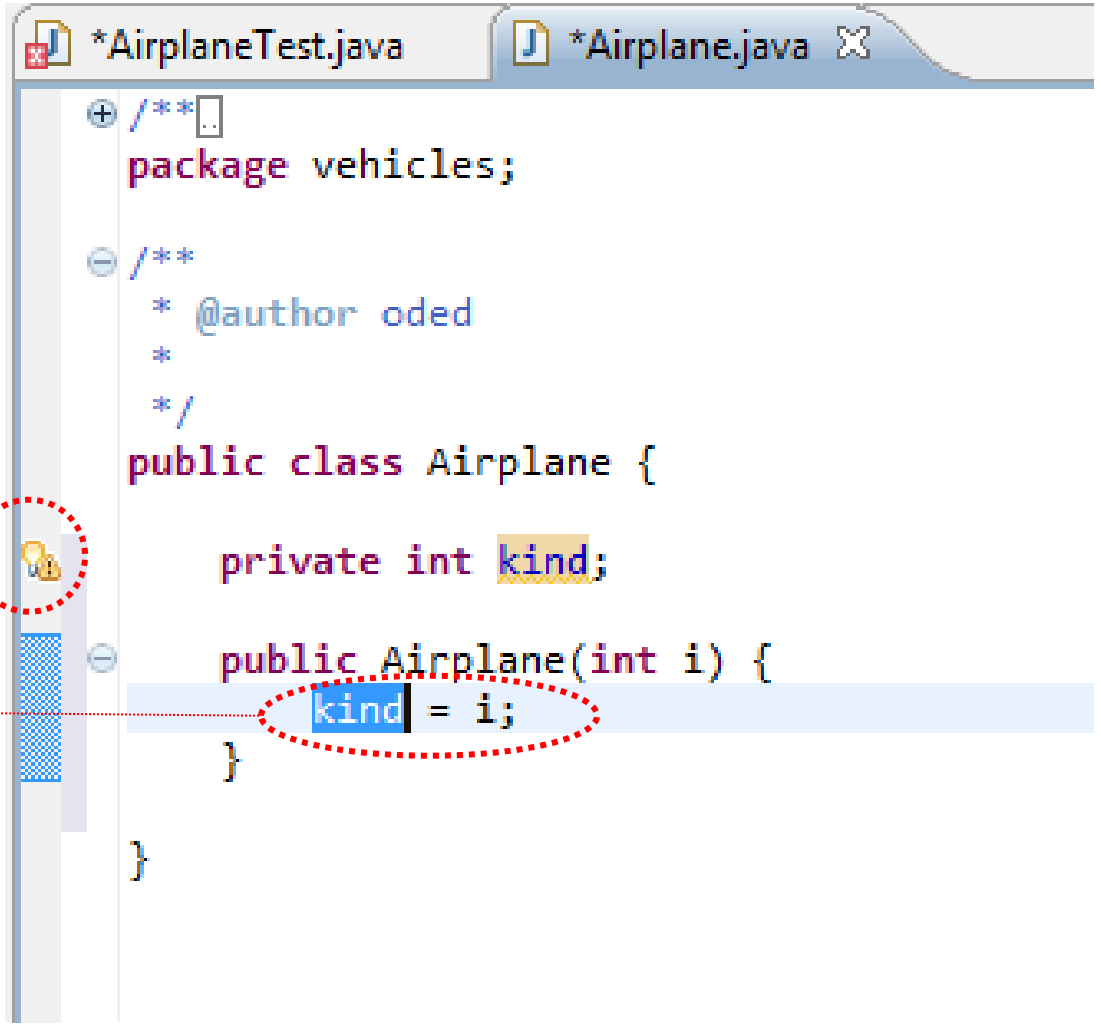
Use this to create the constructor for *Airplane* class



New Airplane code (with addition of a field)

What is this?

Start by adding this and then use IDE to create the field



Run test and if no problems commit

New test code

```
public void test() {

        String expectedOutput = "Like a fighter jet";
        String stringReturned = null;

        Airplane classUnderTest = new Airplane(1);

        stringReturned = classUnderTest.howDoYouFly();

        assertEquals("Wrong Answer !",  stringReturned, expectedOutput);
}
```

1. Use IDE to create new method in airplane class

2. Run test – if fails commit

Code may require adjusting if copy pasted

New how do you fly method (in airplane class)

```
public String howDoYouFly() {
        switch(kind){
        case 1: return "Like a fighter jet";
        case 2: return "I don't fly";
        case 3: return "Like a passenger plane";
        default: return null;
        }
}
```

1. Run test – if passes commit

New Liftoff test (in airplane class)

```
@Test
public void test2() {

        String expectedOutput = "Vertically";
        String stringReturned = null;

        Airplane classUnderTest = new Airplane(1);

        stringReturned = classUnderTest.howDoYouLiftOff();

        assertEquals("Wrong Answer !", stringReturned, expectedOutput);

}
```

1. Use IDE to create new method in airplane class

2. Run test – if fails commit

howDoYouLiftOff Code (for airplane class)

```
public String howDoYouLiftOff() {
      switch(kind){
      case 1: return "Vertically";
      case 2: return "I Liftoff";
      case 3: return "Horizontally";
      default: return null;
      }
}
```

1. Run test – if passes commit

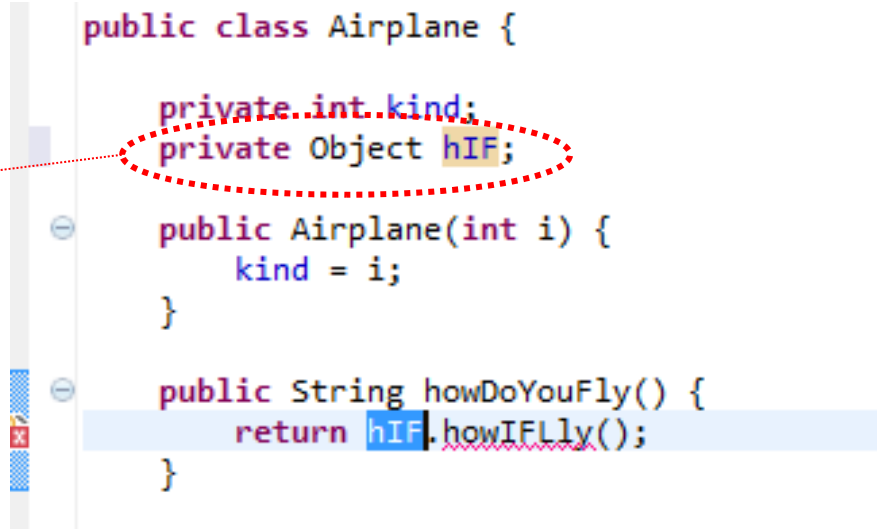
Now Apply the Strategy Pattern

Refactoring Flying

```
public String howDoYouFly() {
      return hIF.howIFLly();
}
```

1. New Code for **howDoYouFly()** in airplane class use IDE to create hIF field

Type object was created, because the type was not explicit (in Java all classes inherit Object by default)



Refactoring Flying

1.Change Object to Flying

2. Use this to create Flying interface

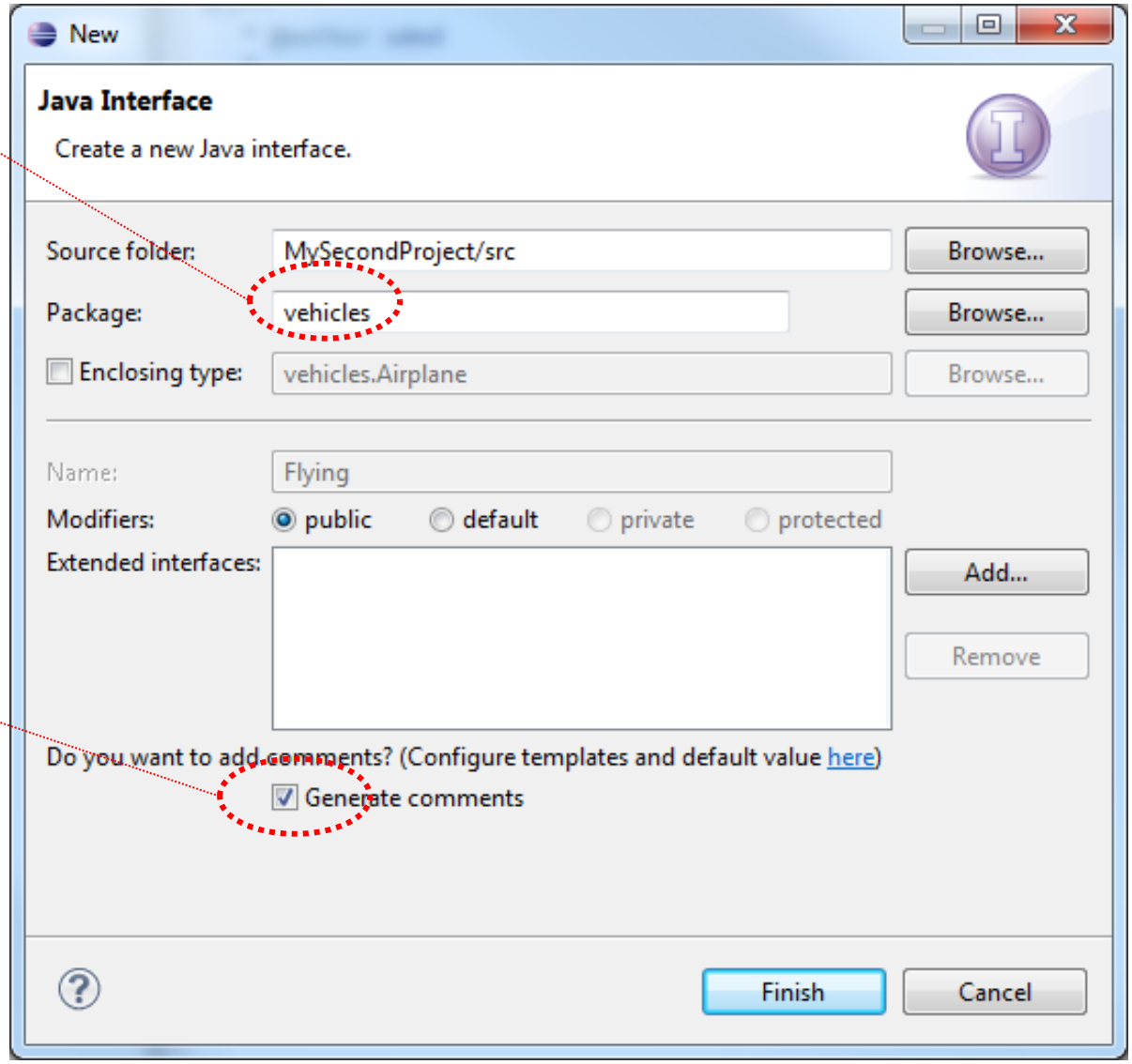
```
public class Airplane {

    private int kind;
    private Object hIF;

    public Airplane(int i) {
        kind = i;
    }

    public String howDoYouFly() {
        return hIF.howIFLly();
    }
```

```
public class Airplane {

    private int kind;
    private Flying hIF;

    public Airplane(int i) {
        kind = i;
    }
```

Java interface window

Make sure correct package

Generate comments



Java interface code

*Airplane.java | AirplaneTest.java | Flying.java

```
/**
package vehicles;

/**
 * @author oded
 *
 */
public interface Flying {

}
```

```
*/
public class Airplane {

    private int kind;
    private Flying hIF;

    public Airplane(int i) {
        kind = i;
    }

    public String howDoYouFly() {
        return hIF.howIFLly();
    }

    public String howDoYouLiftOff() {
```

Use this to create '*howIFly*' method

New '*HowIFly*' Method