

Assignment 3 Sample Test Case

Question 1

```
public static void testInsect() {
    Insect i = new Insect("some name");
    System.out.println(i.getName() == "some name");
    System.out.println(i.canFly() == false);
    // Message printed too.
}

public static void testFlee() {
    Flee f = new Flee();
    // getName is inherited from Insect.
    System.out.println(f.getName() == "Fleet");
    System.out.println(f.canFly() == false); // No message printed.
}

public static void testDragonfly() {
    Dragonfly d = new Dragonfly("Frequent Fly", 20.0, 1);
    // getName is inherited from Insect.
    System.out.println(d.getName() == "Frequent Fly");
    System.out.println(d.getLength() == 20.0);
    System.out.println(d.canFly() == true);
}

public static void testEmperorDragonfly() {
    // Testing the first constructor.
    EmperorDragonfly ed1 = new EmperorDragonfly ("king fly", 3.0,1);
    // getName is inherited from Insect.
    System.out.println(ed1.getName() == "king fly");
    // getLength is inherited from Dragonfly.
    System.out.println(ed1.getLength() == 3.0);
    // getAge is inherited from Dragonfly.
    System.out.println(ed1.getAge() == 1);
    // canFly is inherited from Dragonfly.
    System.out.println(ed1.canFly() == true);
    // Testing the second constructor.
    EmperorDragonfly ed2 = new EmperorDragonfly ("green fly");
    // getName is inherited from Insect.
    System.out.println(ed2.getName() == "green fly");
    // getLength is inherited from Dragonfly.
    System.out.println(ed2.getLength() == 2.0);
    // getAge is inherited from Dragonfly.
    System.out.println(ed2.getAge() == 3);
    // canFly is inherited from Dragonfly.
    System.out.println(ed2.canFly() == true);
}

public static void testMaleEmperorDragonfly () {
    MaleEmperorDragonfly med = new MaleEmperorDragonfly();
    // getName is inherited from Insect.
    System.out.println(med.getName() == "Beautiful");
    // getLength is inherited from EmperorDragonfly.
    System.out.println(med.getLength() == 3.5);
    // getAge is inherited from EmperorDragonfly.
    System.out.println(med.getAge() == 4);
    // canFly is inherited from Dragonfly.
}
```

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        System.out.println(med.canFly() == true);
    }

    public static void testDragonflyNymph () {
        DragonflyNymph dn = new DragonflyNymph();
        // getName is inherited from Insect.
        System.out.println(dn.getName() == "Baby Dragon");
        // getLength is inherited from Dragonfly. System.out.println(dn.getLength() == 0.8);
        // getAge is inherited from Dragonfly.
        System.out.println(dn.getAge() == 1);
        // canFly is from DragonflyNymph itself.
        System.out.println(dn.canFly() == false);
    }
}

```

Question 2

```

public static void testDisplayBox() {
    // In the testDisplayBox method, create a male emperor dragonfly called med1...
    MaleEmperorDragonfly med1 = new MaleEmperorDragonfly();
    // then create a display box with this male emperor dragonfly in it.
    DisplayBox db = new DisplayBox(med1); // Implicit upcast from MaleEmperorDragonfly to
    Dragonfly.
    // Then get the male emperor dragonfly from the display box...
    Dragonfly d = db.getDragonfly();
    // and store it into a local variable called med2 of type MaleEmperorDragonfly.
    MaleEmperorDragonfly med2 = (MaleEmperorDragonfly)d; // Downcast mandatory!
    // Use the == operator to check that med1 and med2 are the same male emperor dragonfly.
    System.out.println(med1 == med2);
}

```