

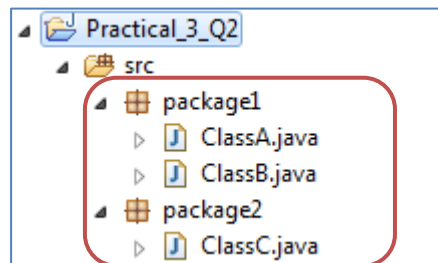
Practical 3 – Week 3 Encapsulation

1. Copy the Customer class from Practical 2 Question 4. Create a new class, CustomerMain with the main method and put in these lines:

```
Customer cust = new Customer("123", "Ms Phoon");
System.out.println("Name: " + cust.name);
```

Can your program compile? Explain.

2. Create a new Java Project with 2 packages and 3 classes (ClassA, ClassB and ClassC) as shown. We want to verify the effect of access modifiers on the accessibility of the instance variables in ClassA.



```
package package1;

public class ClassA {
    public int a;    // Access level: public
    protected int b; // Access level: protected
    int c;           // Access level: default
    private int d;   // Access level: private

    public ClassA() {
        a = 1;
        b = 2;
        c = 3;
        d = 4;
    }
}
```

```
package package1;

public class ClassB {
```

```

    public static void main(String[] args){
        ClassA ca = new ClassA();
        System.out.println("a : " + ca.a);
        System.out.println("b : " + ca.b);
        System.out.println("c : " + ca.c);
        System.out.println("d : " + ca.d);
    }
}

```

```

package package2;
import package1.ClassA;

public class ClassC {
    public static void main(String[] args) {
        ClassA ca = new ClassA();
        System.out.println("a : " + ca.a);
        System.out.println("b : " + ca.b);
        System.out.println("c : " + ca.c);
        System.out.println("d : " + ca.d);
    }
}

```

There should be 1 syntax error in ClassB. java and 3 syntax errors in ClassC. java.

- a. List the syntax errors in both classes.
 - b. Explain the errors.
 - c. Resolve the syntax errors without changing the access modifiers.
3. Implement a class Student. For the purpose of this exercise, a student has a name, a total quiz score and the number of quizzes taken. Supply an appropriate constructor, all the accessor methods and user defined methods addQuiz(int score), getTotalScore(), and getAverageScore().

Write a test program (StudentApp. java) to test the Student class.

-- End --