

2005 Paper 11 Question 2

Foundations of Programming

- (a) List the three kinds of Java *inner class* and say which of the three is used in the following program. [4 marks]

```
public class Trial
{ private boolean b = true;

    private Trial()
    { (new ClassIn()).test();
      this.b = false;
    }

    public static void main(String args [])
    { new Trial();
    }

    private class ClassIn
    { ClassIn()
      { boolean b = false;
      }

      private void test()
      { if (this.b)
        System.out.println("Yes");
        else
        System.out.println("No");
      }
    }
}
```

- (b) The `javac` compiler complains about the condition in the `if`-statement. What is the complaint? Show *two* ways in which the condition may be fixed. [4 marks]
- (c) With either of these corrections the program will compile and run in the same way. Explain what happens at run-time and, in particular, show what output is printed. [6 marks]
- (d) Rearrange the code so that `class ClassIn` is a local class within the constructor `Trial()`. The program as a whole should perform as before. [6 marks]