p6q6
AM

Compiler Construction

**Compiling Techniques y2002p6.tex** 2002

Explain a possible implementation technology for Java classes and objects. Your answer should focus on storage layout for objects and on how class variables and methods are accessed—it is not necessary to explain access qualifiers such as `public` and `private`. Illustrate your answer with following program; in particular indicate its eventual output.

```
class test {
public int n;
public static int s = 100;
public void f(int x) { System.out.println("f1 " + (x+n)); }
public static void main(String args[]) {
        test p = new test();
        test2 q = new test2();
        test r = q;
        p.n = 4;
        q.n = 5;
        q.m = 6;
        r.n = 7;
        p.f(p.s);
        q.f(p.s);
        r.f(q.s);
    }
}

class test2 extends test {
public int n, m;
public static int s = 200;
public void f(int x) { System.out.println("f2 " + (x+n+m)); }
}
```

[20 marks]

**Solution Notes y2002p6.tex**

Bookwork. Answer is

```
f1 104
f2 111
f2 211
```