

2003 Paper 1 Question 10

Programming in Java

You are to write a Java program. Its main class should be called `Replicate` and its behaviour is to be that the following two sequences of Unix commands must result in exactly the same text appearing on your terminal:

1. `cat Replicate.java`
2. `javac Replicate.java`
`java Replicate`

in other words the output from the program should be identical to its own source. Your code is not permitted to inspect the file system, so items along the lines of

```
... new InputStream(new File("Replicate.java")) ...
```

are prohibited. Your code is expected to be reasonably neatly laid out and must contain at least one comment! Credit will be given for code brevity and for inclusion of a clear explanation of how your code works.

[20 marks]

[Hint: it is very probable that your code will consist of two rather similar sections. One will be data and the other executable code. They will be such that the code can print the data out in two different ways: once to re-create itself and a second time to re-create the code.]