Java 2001

p1q9
ACN

exam.txt

(1) Programmers who get mildly confused about syntax or make typing errors;
(2) Groups of programmers working on libraries that will form part of some large project;
(3) Numbers, characters, trig functions and so on;
(4) Opening files, reading or writing and then closing them;
(5) Other features of Java not falling centrally within any of the above categories.

[4 marks per section]

Marking notes:

I expect that various candidates will list (good sensible) items that I have
not listed here! They get credit if they put forward a good point and explain
why it might be relevant. So they need more words than I am writing here!

(1) type-checking
    deliberately attempt at simple language without frills
    = vs ==
    may not declare local again in nested scope

(2) name-space control via packages
    private/package/protected/public access control
    import

(3) range of each numeric datatype absolutely defined
    bit-for-bit values of Math.sin etc must be same on all machines
    unicode characters to avoid i18n failure mode

(4) exceptions to be raised wherever anything mich fail ...
    PLUS Java insists that exceptions be caught (or explicitly passed on)
    "finally" to support tidy-up code (eg file close)

(5) free-format section, with some possibilities listed here

Error checking:
   O-O programming hoped to lead to good structure & modularity
   single inheritance not multiple (+ interfaces)
   array bound checking always
   long names for many functions reduce ambiguity
   documentation comments
   etc etc

Portability:
   graphics and window management support in main libraries
      so universally available. "J-" versions (swing) push for

cross-platform compatibility
bytecode class files are platform independent
order of evaluation always defined