

1999 Paper 13 Question 6

Comparative Programming Languages

Early programming languages had relatively poor facilities for type checking, data abstraction, data hiding and encapsulation. Explain the meaning of these terms and discuss their importance. [6 marks]

Outline the key features that a language must have to be called object-oriented and briefly discuss to what extent C++, Java and Smalltalk have them. [7 marks]

Briefly discuss some of the reasons why C++ programs typically run faster than equivalent programs written in Java or Smalltalk. [7 marks]