1999 Paper 5 Question 5

Comparative Programming Languages

Discuss what it means for a program written in C to conform to the ANSI Standard and for a compiler to conform to the standard. [4 marks]

Discuss the reasons why a program conforming to a standard may fail to yield exactly the same results when run on different conforming compilers. [10 marks]

Discuss why it is sometimes possible to write apparently simple expressions, such as `9+8/3` in PL/I, that yield unexpected results in languages that have a wide variety of numerical data types. To what extent is it possible to eliminate such problems in future languages? [6 marks]