

1995 Paper 5 Question 6

Compiler Construction

Give a BNF syntax for unsigned floating point constants that would allow constants such as

1.2 3E4 0.23E-8

but not

.123 20. 21.E4

[6 marks]

Construct a finite state machine that could be used in a lexical analyser to read in such floating point numbers. [7 marks]

Show how this finite state machine can be extended to evaluate the floating point number it reads. [7 marks]