1994 Paper 7 Question 11

Proving Programs Correct

Describe the rôle of first-order predicate calculus in Floyd–Hoare logic.   [5 marks]

Give an outline of a deductive system for predicate calculus, covering at least the following topics:

(*a*) terms, formulae and sequents   [5 marks]

(*b*) introduction *versus* elimination rules   [5 marks]

(*c*) side conditions and variable capture   [5 marks]

Illustrate your explanations with examples.