2003 Paper 2 Question 1

Multi-part question

Answer all parts.

(*a*) (*i*) Provide at least *one* argument in favour of computer cracking. [1 mark]

   (*ii*) Name at least *two* of the three new offences created by the *Computer Misuse Act 1990*. [2 marks]

   (*iii*) State at least *one* of the two extensions of this basic law. [1 mark]

(*b*) What are the five stages of the Capability Maturity Model? [4 marks]

(*c*) In the context of loop design, what is a *sentinel*? Illustrate your answer by coding a loop that finds the first non-negative number in an array. [4 marks]

(*d*) If a deterministic finite automaton accepts any string at all, why does it accept one whose length is less than the number of states in the automaton?

[4 marks]

(*e*) Give a logic symbol for a dual-port register file containing eight four-bit registers. Be sure to name each input and output connection and give its width. What non-determinism can arise? [4 marks]