

2010 Paper 1 Question 8

Software Design

You are required to present an outline design of a system that will be used by doctors at a medical practice to keep basic patient records. The system should record each consultation between a doctor and patient, any illness diagnosed by the doctor, and any drugs prescribed to the patient. At regular intervals, an auditor will use the system to check whether the same drug is being prescribed repeatedly to a particular patient.

- (a) Sketch a UML use case diagram for the above functionality. [3 marks]
- (b) Sketch a UML class diagram for a system architecture to support this functionality. [6 marks]
- (c) Provide outline Java class and method declarations for **two** of the classes that were included in part (b). [4 marks]
- (d) Sketch a UML interaction diagram showing the operation of the audit function. [3 marks]
- (e) Describe **two** variable roles that would be required when implementing the audit function in Java. [4 marks]