2007 Paper 1 Question 3

Programming in Java

(*a*) What is meant by a *generic* in the context of Java? Explain the main purpose of generics and the most important syntax associated with them. [3 marks]

(*b*) Explain how any program written using generics could be re-written to avoid them. Give a fragment of code illustrating the conversions needed to achieve this. Discuss why many people will view the version that does use generics as displaying better style and robustness. [4 marks]

(*c*) One of your fellow students puts forward the proposition "`String` is a sub-class of `Object`, therefore `Vector<Object>` is a sub-class of `Vector<String>`". Discuss. [3 marks]