CS3021/3421 Tutorial 3 Notes

This tutorial had more problem solving than the previous two tutorials. The ability to solve problems is a key skill that all students need to practise. Quite a few students didn't take on the challenge. The problems require some thinking. Education is more than regurgitation

Q1. Generally well done. Some students forget about the delayed jumps all together, some forget to put useful instructions in the delay slots and others came up with some clever schemes for doing this, some of which worked and some that didn't.

Q2. This question was generally not answered well. Some students provided answers only, without source code or an explanation of the method used. One student handed in a copy of a sample answer from a previous year – clearly more concerned with summative rather than formative learning. You need to make sure that you understand the difference between procedure depth and window overflow/underflow (the picture from Hennessey and Patterson on page 16 of the notes illustrates this well). Only a small amount of code is needed to get the correct results, but it has to be thought out carefully.

Q3. Some very naive solutions were presented. You need to consider the accuracy of the timer used and getting the average execution time for a number of calls to ackermann(3, 6). A deceptively simple question that is not so easy to solve due to the way in which modern compilers optimise code.

Please examine the sample answer and code carefully.

Addendum: Google Analytics shows that from 15-Nov-17 to 21-Nov-17 inclusive, the average viewing time for the /Jeremy.Jones/VivioJS/dlx/dlx.htm and dlx1.htm pages (the dlx animation) was 4min 14s and 2min 43s respectively. This shows a good attention span!