

## CS1TQ2 - Commercial Off The Shelf Software

### Practical 16 – Investigating the VBA Language

For today's practical please make sure that you can carry out the following tasks related to recording macros in Microsoft Office applications. Items up to the horizontal line should be regarded as a minimum. Items below the line are not compulsory but you will find them useful and should attempt them.

- Start Microsoft Word and create a new, empty document,  
open the VBA editor (Tools→Macros) .....□**
  - Familiarise yourself with the various windows shown .....□**
  - Create a new VBA module (Insert→Module) .....□**
  - Write a procedure to create a message box saying “Hello World” and  
.....containing just an OK button. Run the program .....□**
  - Devise procedures to investigate the following questions, displaying  
.....the answers in a message box:**
    - .....Are For loop expressions evaluated once or on every iteration?.....□**
    - Is a For loop executed if the start and end values are the same? ...□**
    - Can we modify the value of the control variable in a For loop?.....□**
    - What is the value of the control variable at the end of a For loop? □**
  - Read the on-line help for the Format function and create a procedure  
to display the current date and time on the status bar in the form  
10:27 on 19th February in the year 2003 .....□**
  - How can you compare two strings, ignoring the case of the characters? ..□**
  - What range of numbers is returned by the Rnd function? .....□**
  - Create a function to count the number of “e” characters in a string .....□**
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- Devise a procedure to determine whether VBA uses “short circuit”<sup>1</sup>  
evaluation of conditional statements .....□**

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<sup>1</sup> A language that uses “short circuit” evaluation of conditionals will evaluate only those parts of the expression that it needs to determine the truth value of the condition. For example, if the first part of an “AND” clause is FALSE then the whole clause must be false and the second part need not be evaluated. To test this you could define some Boolean functions which have side effects on global (public) variables and call these functions on either side of an AND clause.