Family Name:	

Other Names:	

Signature:	

Student Number:	

This PAPER is NOT to be retained by the STUDENT

The University Of New South Wales

Higher Computing 1A
The Art of Computer Programming
COMP1711 Final Exam - *skeleton*

July 2003

Time allowed: **3 hrs**
Total number of questions: **20**
Total number of marks: **100**
No examination materials permitted.

You must hand in this entire exam paper and both answer booklets. Failure to do so will result in zero marks for the subject and a possible charge of academic misconduct.

Label the two answer booklets "Part C" and "Part D". Ensure that you fill in all of the details on the front of the answer booklets, and then SIGN the booklets. Do the same for this pink question paper.

The multiple choice answer sheet (Part A) must be completed in pencil. Do not use red pen or pencil in Parts B–D.

There is one mark for following the examination instructions.

Examiner's Use Only											
		Inst	A	14+15	16	17	18	B	C	D	Total

Part A: Multiple Choice Questions

Answer the questions in this part by filling in entries on the multiple-choice sheet supplied.

Note that each question has *five* alternatives. Once you have chosen an alternative, fill in the multiple-choice sheet by giving the letter (in square brackets e.g. "[B]") which corresponds to that alternative. Be careful to fill each answer in on the correct row on the multiple-choice sheet (i.e. the row corresponding to the question number).

For each correct answer you earn **3 marks**. There is no penalty for incorrect answers.

Question 1

Which of the following ...?

    (I) `blah`

   (II) `blah blah`

 (III) `blah blah blah`

[A] (I) only

[B] (II) only

[C] (III) only

[D] Two of them

[E] None of them

Question 2

Which statement is most accurate?

[A] gwen is a sweetie

[B] edith is a sweetie

[C] gwen and edith are both sweeties

[D] gwen and edith never need sleep

[E] john howard is a sweetie.

Question 3

Question 4

Question 5

Question 6

Question 7

Question 8

Question 9

Question 10

Question 11

This question relates to the major Project.

Question 12

Part B: Short Answer Questions

Answer these questions in the spaces provided on **this pink question paper**. DO NOT answer these questions in an **answer booklet**!

Write your answers clearly. Keep your answers neat and very brief. Messy or long answers will not be marked.

Question 13

(2 marks)

Explain why uni should be for rich students, not smart ones. _____

_____

Question 14

(2 marks)

List one advantage and one disadvantage of owning oil wells.

Disadvantage: _____

Advantage: _____

Question 15

(5 marks)

What does the following function do?

```
g x = [x,x ..]
```

Note - your answer should say **what** *the output of the function is (i.e. its overall effect), it should not be a description of* **how** *the output is calculated.*

Answer: _____

_____

_____

Question 16

(8 marks)

Write a Haskell function `tootToot`,

```
tootToot :: String -> String
```

which blah blah blah.

For example,

```
Main> tootToot "gwen"
"go to bed gwen"
Main> tootToot "edith"
"go to bed edith"
```

You may not use any Haskell functions apart from arithmetic operators, ++, and pattern matching over lists.

Your answer:

Question 17

blah blah blah
Briefly state what the answer is: _____

_____

Improve the speed of blah by altering one of the lines of the second function:

_____

(draw an arrow to the line you are correcting)

blah blah blah

Part C

Answer this part in your Part C answer booklet. Start each sub-question on a new page.

Make your answers as clear and easy to understand as possible. Provide type definitions and brief comments where necessary. Confusing or illegible solutions will lose marks.

If you do not wish your answer for a sub-question to be marked clearly record 1 mark for that sub-question on the front of your Part C answer booklet. If you do this your answer for that sub-question will **not** be marked.

In this part you may **not** import or use any library modules.

Question 18

(18 marks)

(a) Write a function which blah blah blah

(b) Write a function which blah blah blah

(c) Write a function which blah blah blah

Part D

Answer this part in your Part D answer booklet.

Partial solutions (i.e. attempts worth less than 50%) will score no marks in this part. If you do not wish your answer for a question to be marked record 1 mark for that question on the front of your Part D answer booklet. If you do this your answer for that question will **not** be marked.

Your solutions must be clear, elegant and easy to understand. In this part confusing or difficult to understand solutions will score no marks.

Question 19

(10 marks)

blah blah blah
You may only use functions and language features which have been covered in lectures.

Question 20

(10 marks)

This question has two alternatives - you are only to answer ONE of them. You may choose which one. The first one is worth 10 marks, the second is only worth 4 marks.

(a) blah blah blah

(b) OR, for 4 marks only, blah blah blah blah

If you write more than one function in the answer booklet for this question we will only mark one — the *first* one which is not crossed out.