

# CS 1025: Computer Science Fundamentals I (Watt)

University of Western Ontario

## Orientation Questionnaire

The purpose of this questionnaire is to get a sense of the background of students in CS 1025.

### I. About you

Your name: \_\_\_\_\_

Your university program and year: \_\_\_\_\_

Is this your first university semester? YES NO

Is this your first university lecture ever? YES NO

Do you have a web page or blog? YES NO

If so, what is its address? \_\_\_\_\_

### *Optional:*

What interests you about computing?

If you know what you want to do at university, what is it?

If you know what you want to do after that, what is it?

## II. About your background

What high school computing courses have you taken?

Course Number	Topics covered
_____	_____
_____	_____
_____	_____
_____	_____

How long ago did you write your first program? \_\_\_\_\_

How long ago did you write your most recent program? \_\_\_\_\_

Which of the following platforms have you used, if any?

Linux Mac OSX Symbian Windows Other \_\_\_\_\_

Which of the following programming languages **have you used**, if any?

Assembler C C++ Java JavaScript Lisp Perl Ruby Scheme Shell Scripts Visual Basic

Other \_\_\_\_\_

Which of the following programming languages are **you comfortable with**, if any?

Assembler C C++ Java JavaScript Lisp Perl Ruby Scheme Shell Scripts Visual Basic

Other \_\_\_\_\_

Which of the following development environments have you used, if any?

Dr Java Eclipse NetBeans Visual Studio Other \_\_\_\_\_

About how many lines of code were there in the largest program you have worked on? \_\_\_\_\_

### III. Concepts you may have seen

Which of the following ideas have you seen and used? Don't worry if you haven't seen most of these.

**1 = Never seen it. 2 = Know what it means. 3=Tried it. 4=Use it sometimes. 5 = Use it all the time.**

Variables	1	2	3	4	5
Declarations	1	2	3	4	5
Loops	1	2	3	4	5
Sub-programs (functions/methods/subroutines)	1	2	3	4	5
Arrays	1	2	3	4	5
Strings	1	2	3	4	5
Linked lists	1	2	3	4	5
Tree data structures	1	2	3	4	5
Dynamic storage allocation	1	2	3	4	5
Classes	1	2	3	4	5
Inheritance	1	2	3	4	5
Interfaces	1	2	3	4	5
Templates	1	2	3	4	5
Exception handling	1	2	3	4	5
Threads	1	2	3	4	5
Complexity estimates, <i>e.g.</i> $O(n^2)$	1	2	3	4	5
Pre-conditions/post-conditions	1	2	3	4	5
Unit tests	1	2	3	4	5
System integration tests	1	2	3	4	5

#### IV. A problem to try (not for grades)

Answer any of the following questions you like.

1. Write a program in any language you like to add two positive two-digit integers, N and M.

**Input:** At the beginning of the program you can assume that the variables N1 and N0 contain the tens digit and units digit of the number N. So if  $N=26$ , N1 would contain 2 and N0 would contain 6. Likewise M1 and M0 contain the tens digit and units digit of M.

**Output:** The program should compute R2, R1 and R0 which are the hundreds, tens and units digits of the result, R, such that  $R = N + M$ .

**Example:** Suppose  $N=26$  and  $M = 97$ . Then  $N1=2$ ,  $N0=6$ ,  $M1=9$ ,  $M0=7$  before your program starts. So  $R=26+97=123$ . At the end of your program, we should have  $R2=1$ ,  $R1=2$ ,  $R0=3$ .

2. Write the same program as in question 1, but let N, M and R be arrays with entries  $N[0]$ ,  $N[1]$ ,  $M[0]$ ,  $M[1]$ ,  $R[0]$ ,  $R[1]$ ,  $R[2]$ . You can assume that the arrays N, M and R have been pre-created for you.
3. Write the same program as in question 2, using arrays, but let N and M be arrays of size K and R an array of size K+1. You can assume that the arrays N, M and R have been pre-created for you and that the variable K is already initialized.

*Write your answers here and on the next page.*

*Continue your work here.*