

Course 161/2S3, Tutorial, Trinity Term, 2006

- Understand the use of structures in the `Employee.c` program, versions 1 and 2 (see <http://www.maths.tcd.ie/~ryan/teaching/Programs.html> for a version to download).

- *From June 2004*

Indicate the order of evaluation of the following C expressions by adding the appropriate parentheses. Eg. $x = a + b$ is written $(x = (a + b))$.

- (i) `x * y / w * z`
- (ii) `x < y && x < w || w != z`
- (iii) `! x / ! ! w + 1.0`

What values do these expressions return if $x = 1.0, y = 2.0, w = 1, z = 2$?

What is the link between pointers, arrays and strings in the C programming language?

What is the primary difference between arrays and structures in C?

Explain the difference between the “call by value” and “call by reference” mechanisms in terms of variables passed to functions from the calling environment in C.

Illustrate the use of “call by reference” by writing a C function which uses pointers to swap the values of two integers in the calling environment.