COMP1511
Tutorial 2

variables| constants| program flow

C Data Types

int: Stores the value of an integer

double : Stores the value of some fractional/decimal number

char: Stores an integer from 0 - 127, mostly used to represent ascii characters

Variables

Variables store a certain *type* of value and can be changed

Variables must be declared before use

```
int number;          // Declaration
```

Variables must be initialised before their value is used

```
number = 42;         // Initialisation

char letter = 'A';   // Both on the same line
```

Constants

Constants define a value that does not change during the program

```
#define SIZE 16
```

They should be used to prevent 'magic numbers' in your code

What C operators have we seen so far?

Arithmetic: +   –   *   /   %

Logic: && || !
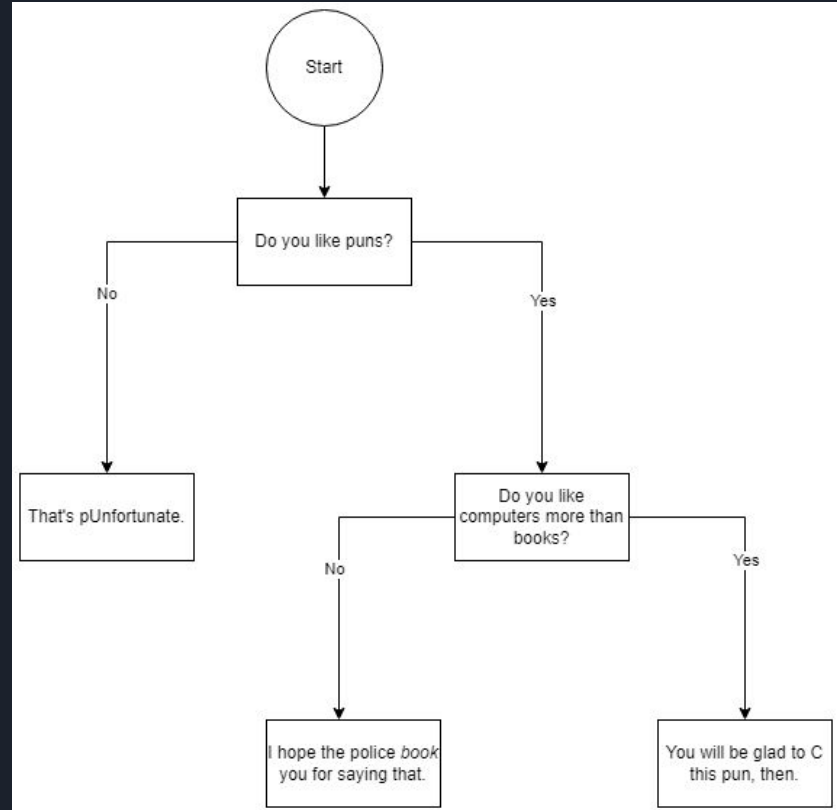
Comparison: <   >   <=   >=   !=   ==

C Arithmetic quirks

What are the values of:

A. (7 / 2)

B. (3.0 / 2) + 1

C. (3 / 2) + 1.0

D. 'a' + 5

E. 'F' - 'A' + 'a'

Leap years and flowcharts

- Years divisible by 4 are leap years

- Except if they're also divisible by 100 they're common years

- Except if they're also divisible by 400 they're leap years