comp1511 week 02

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admin

- get started on **assignment 0**: https://cgi.cse.unsw.edu.au/~cs1511/22T3/assignments/ass0/index.html
- **tutorial code** can be found at: https://github.com/catherinecheng02/COMP1511-W13B-22T3-Tutorial
- questions?

agenda for today

- calculating values in programs (operators)
- weird data types and arithmetic
- diagramming
- programming exercise (scanf, if and else)

operators in C

- what are some operators we know?

types of operators

arithmetic	+	-	*	/	%	
logic	&&	||	!			
comparison	<	>	<=	>=	!=	==

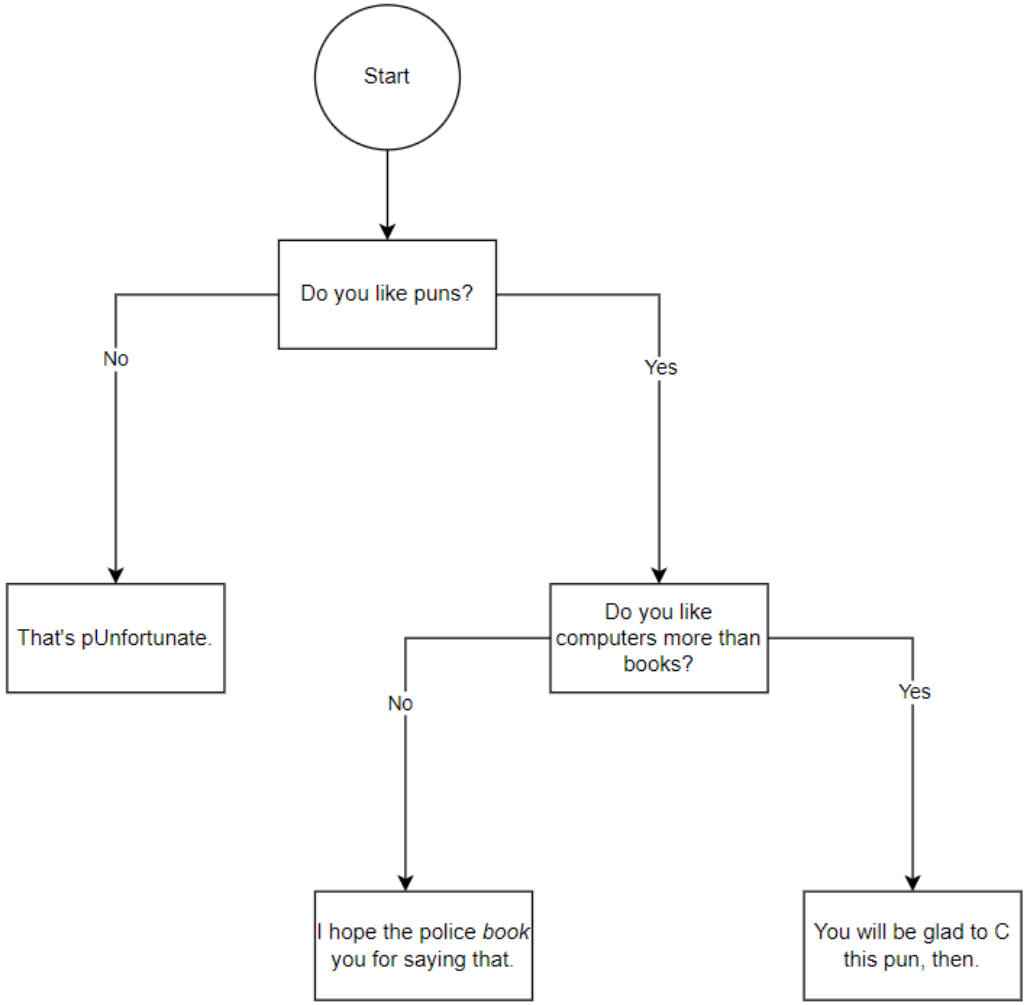
- what's the difference between / and %?

arithmetic

1. (7 / 2) = 3
2. (3.0 / 2) + 1 = 2.5
3. 'a' + 5 = ‘f’
4. 'F' - 'A' + ‘a’ = ‘f’

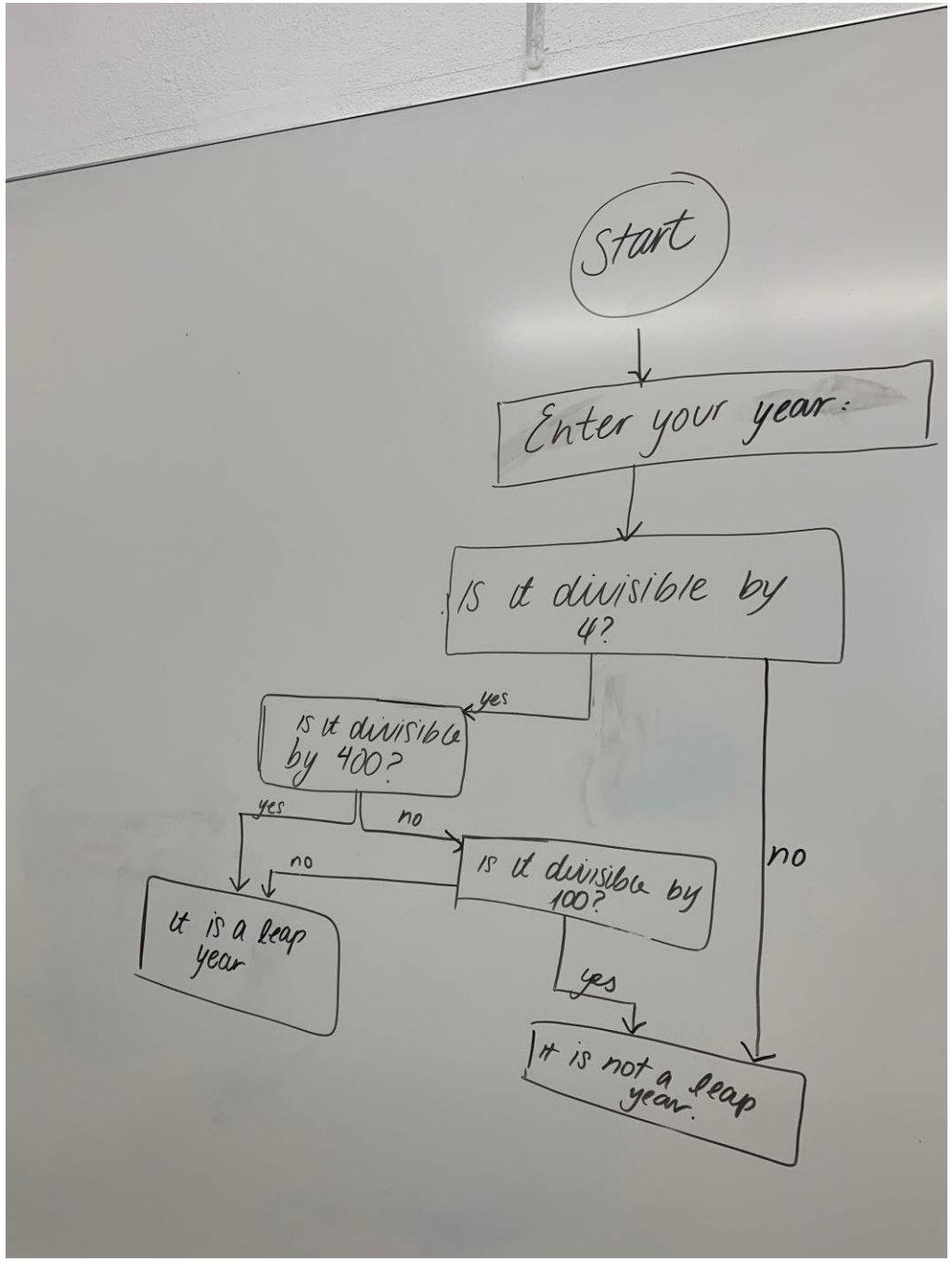
diagramming

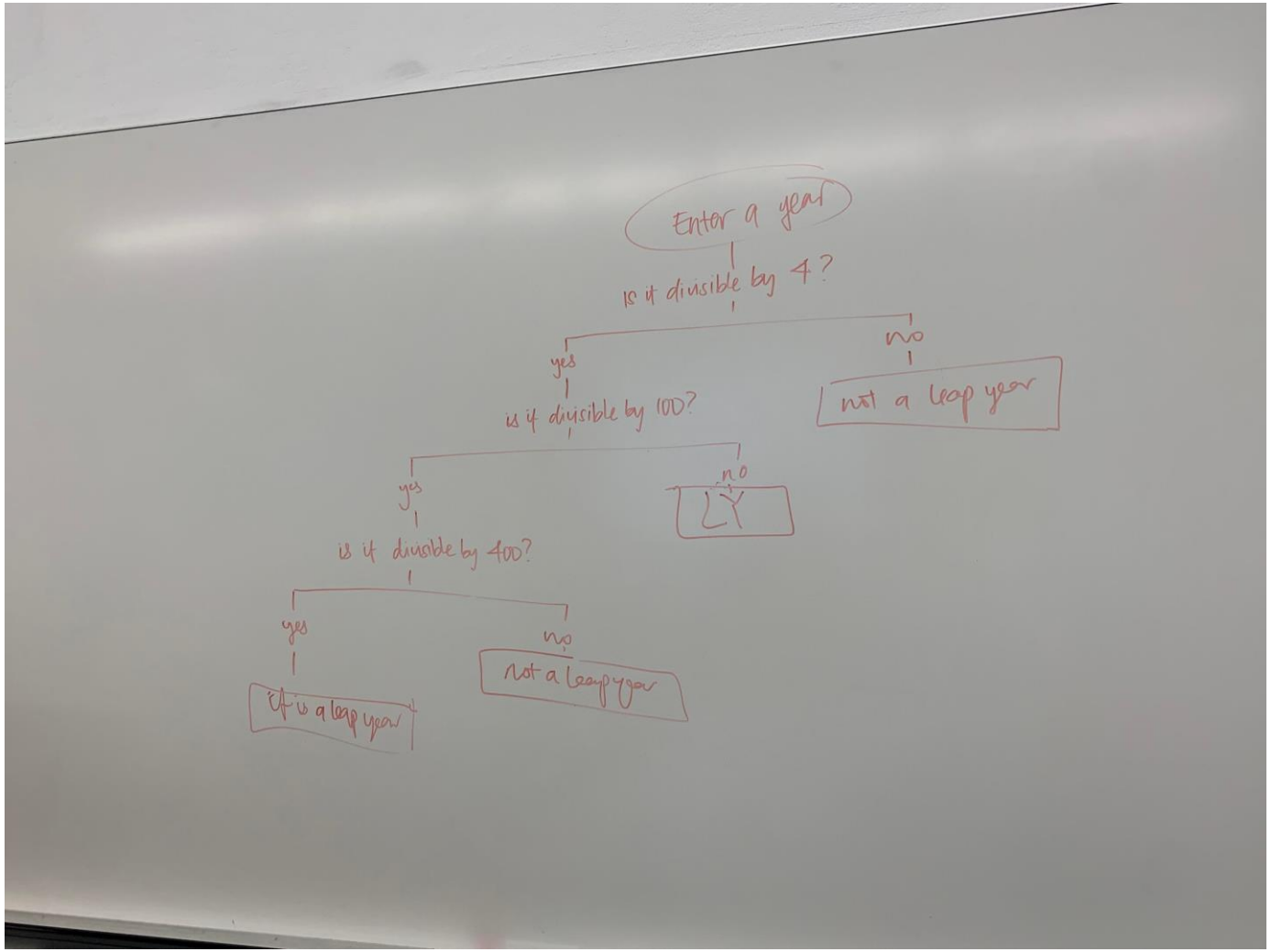
- how to draw a flow chart?

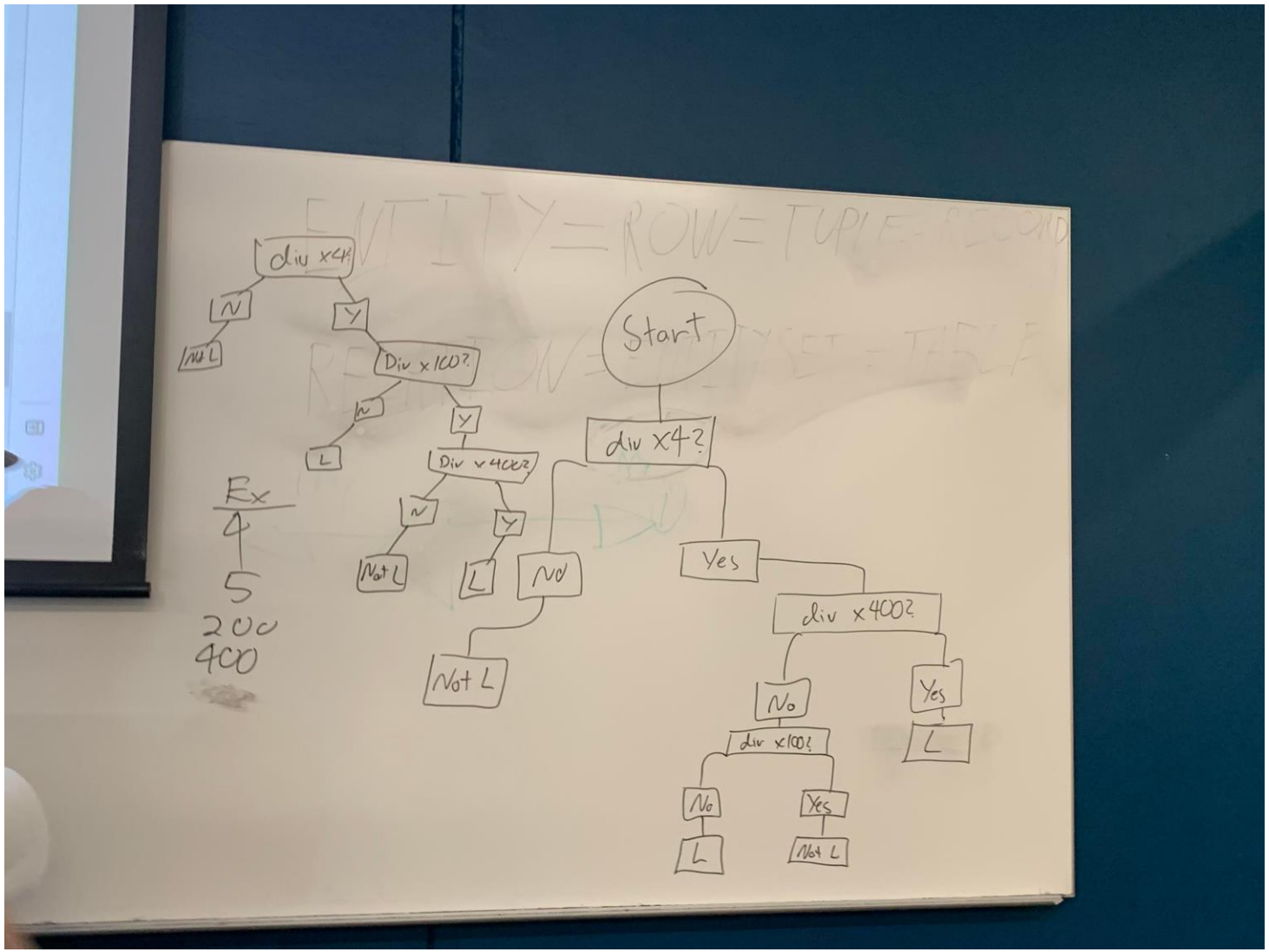


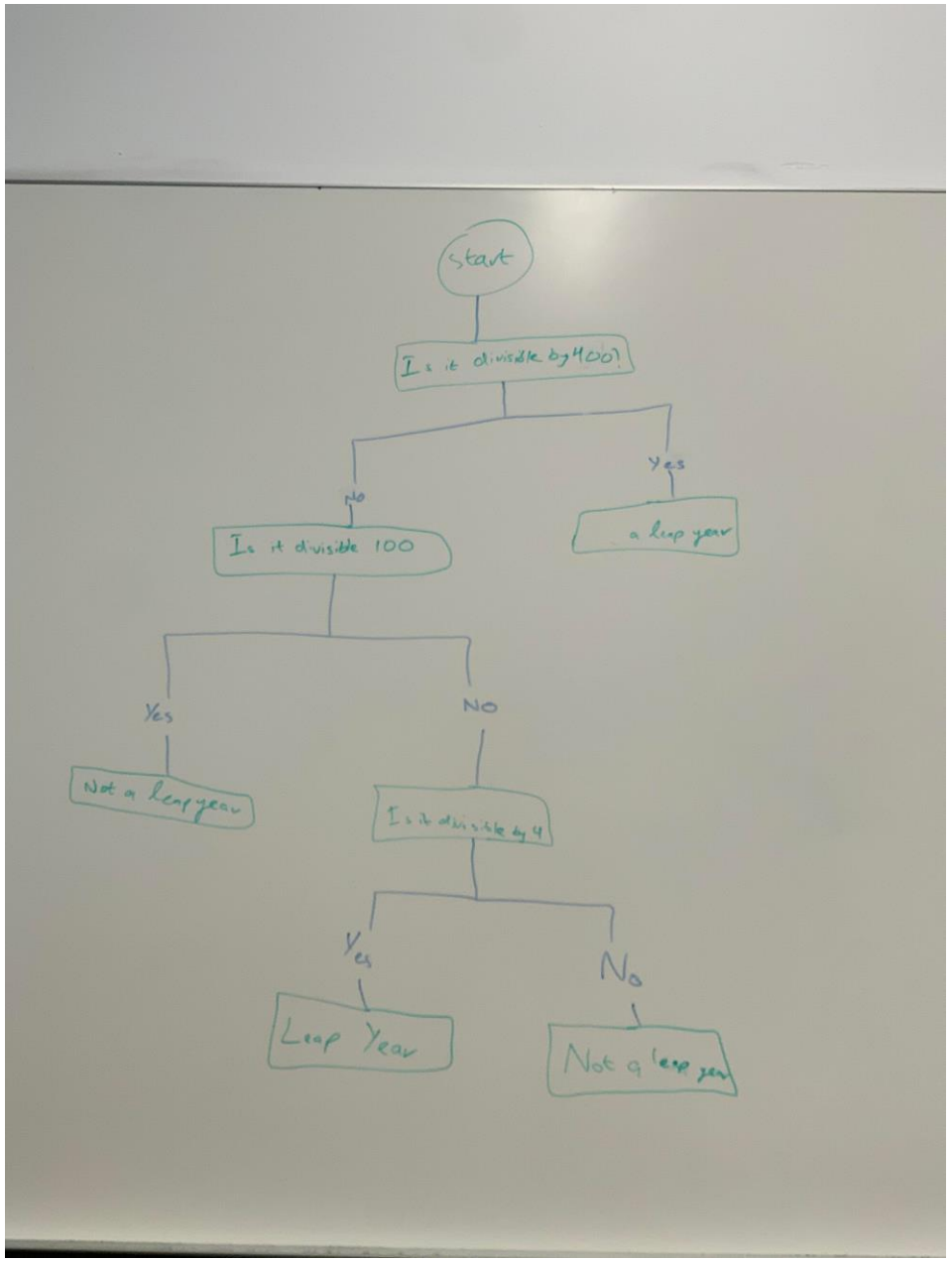
leap years

- three rules of a leap year:
  - years divisible by 4 are leap years. (e.g. 1904 was a leap year)
  - except, years divisible by 100 are not leap years. (e.g 1900 was NOT a leap year)
  - except, years divisible by 400 are always leap years. (e.g. 2000 was a leap year)


Start
Enter your year:
Is it divisible by 4?
yes
Is it divisible by 400?
yes
no
no
Is it divisible by 100?
no
yes
It is a leap year
It is not a leap year.


Enter a year
Is it divisible by 4?
yes
no
Is it divisible by 100?
not a leap year
yes
no
Is it divisible by 400?
yes
no
not a leap year


div x4?
N
Y
Not L
Div x100?
N
Y
L
Div x400?
N
Y
Not L
L
Ex
4
5
200
400
Start
div x4?
N
Yes
Not L
div x400?
No
Yes
L
div x100?
No
Yes
L
Not L


Start
Is it divisible by 400?
No
Yes
Is it divisible 100
a leap year
Yes
NO
Not a leap year
Is it divisible by 4
Yes
No
Leap Year
Not a leap year

programming exercise!

- in this activity, you'll be writing the following program:
  - scan in two integers (a and b).
  - if the first integer is less than the second, print out a short error message using a procedure.
  - if the second integer is 0, print out a different short error message.
  - if the first integer is larger than the second, prints a / b and (a * 1.0) / (b * 1.0).
- let’s follow these steps:
  - draw a diagram
  - convert diagram into pseudocode
  - convert pseudocode into code (if time)

any questions?