comp1511 week 02

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admin

- introductions
- **tutorial code** can be found at: https://github.com/catherinecheng02/COMP1511-W13A-23T1-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 the 3 types of operators?
- what are some examples of each?

types of operators

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

- what's the difference between / and %?

arithmetic

1. (7 / 2)

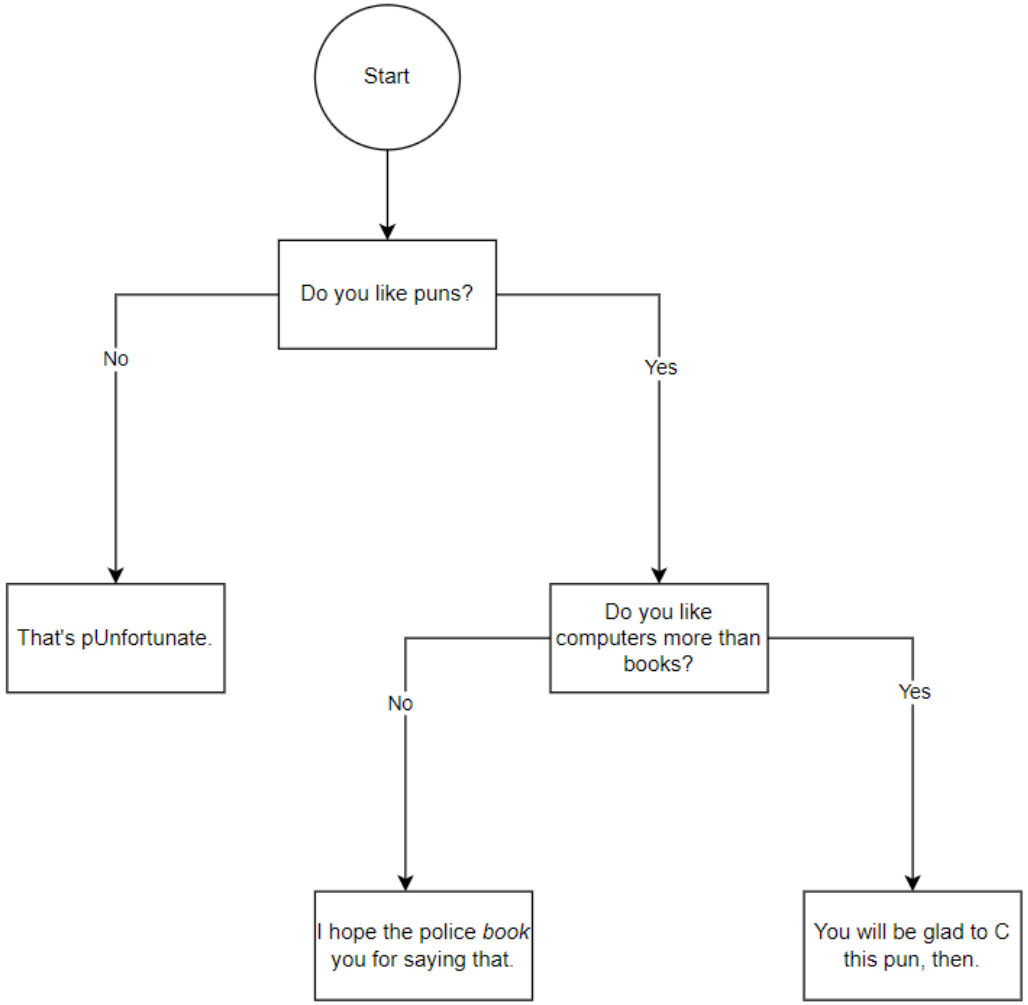
2. (3.0 / 2) + 1

3. 'a' + 5

4. 'F' - 'A' + ‘a’

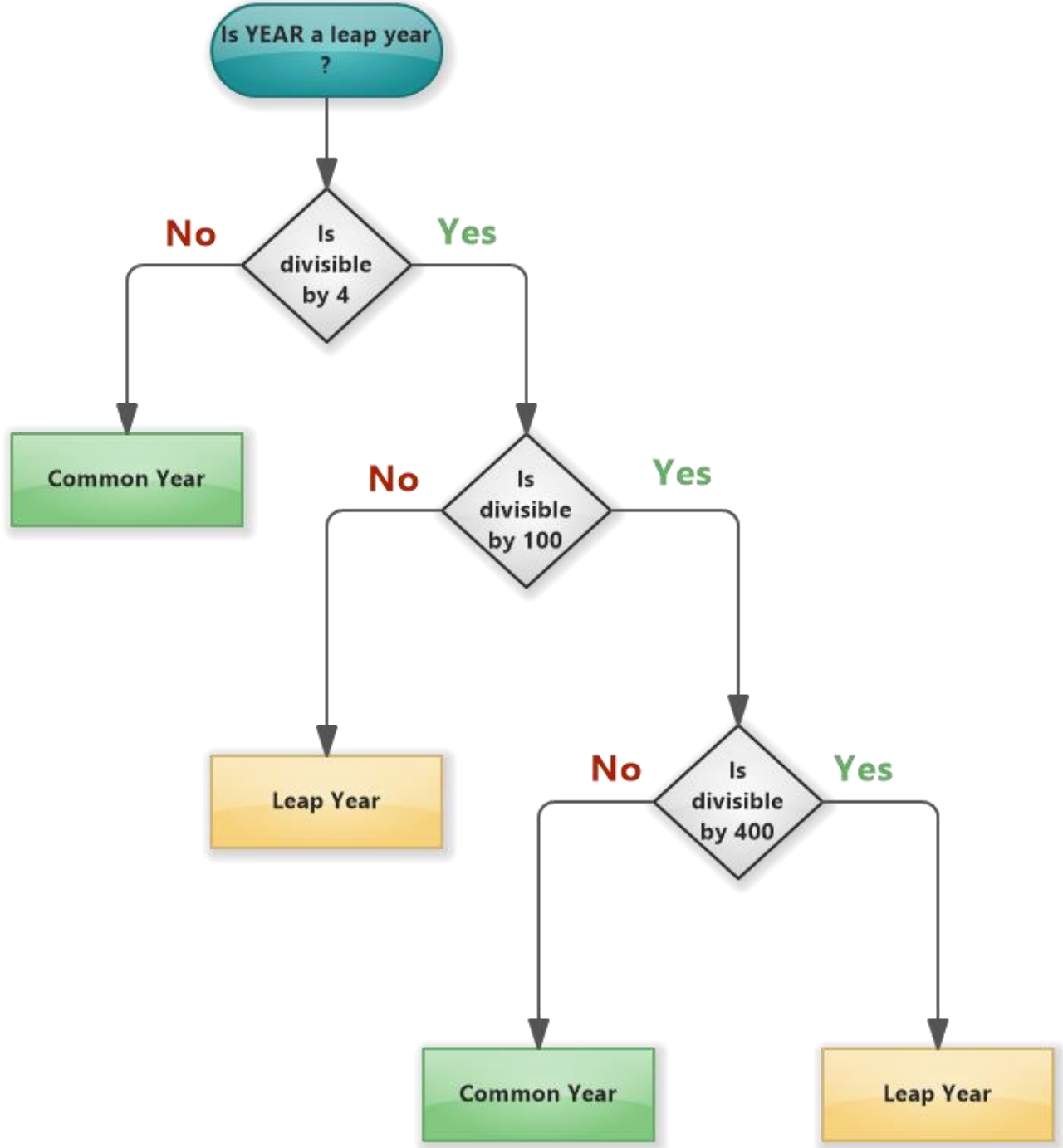
diagramming

- 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)


Is YEAR a leap year ?
Is divisible by 4
No
Yes
Common Year
Is divisible by 100
No
Yes
Leap Year
Is divisible by 400
No
Yes
Common Year
Leap Year

what is pseudocode?

```
// C style pseudocode example.
// Prints out "Hurrah!" if the entered number is 5

int n = 0
print "Enter a number"
scan a number into n
if (n == 5) {
    print "Hurrah!"
}
```

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)

sample solution

- uploaded to Github :)

any questions?