Hello, World!

Pseudocode

Website with examples

- https://github.com/digshake/wustl-helloworld

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What is pseudocode?

- First:
  - What is code?
  - What is a programming language?

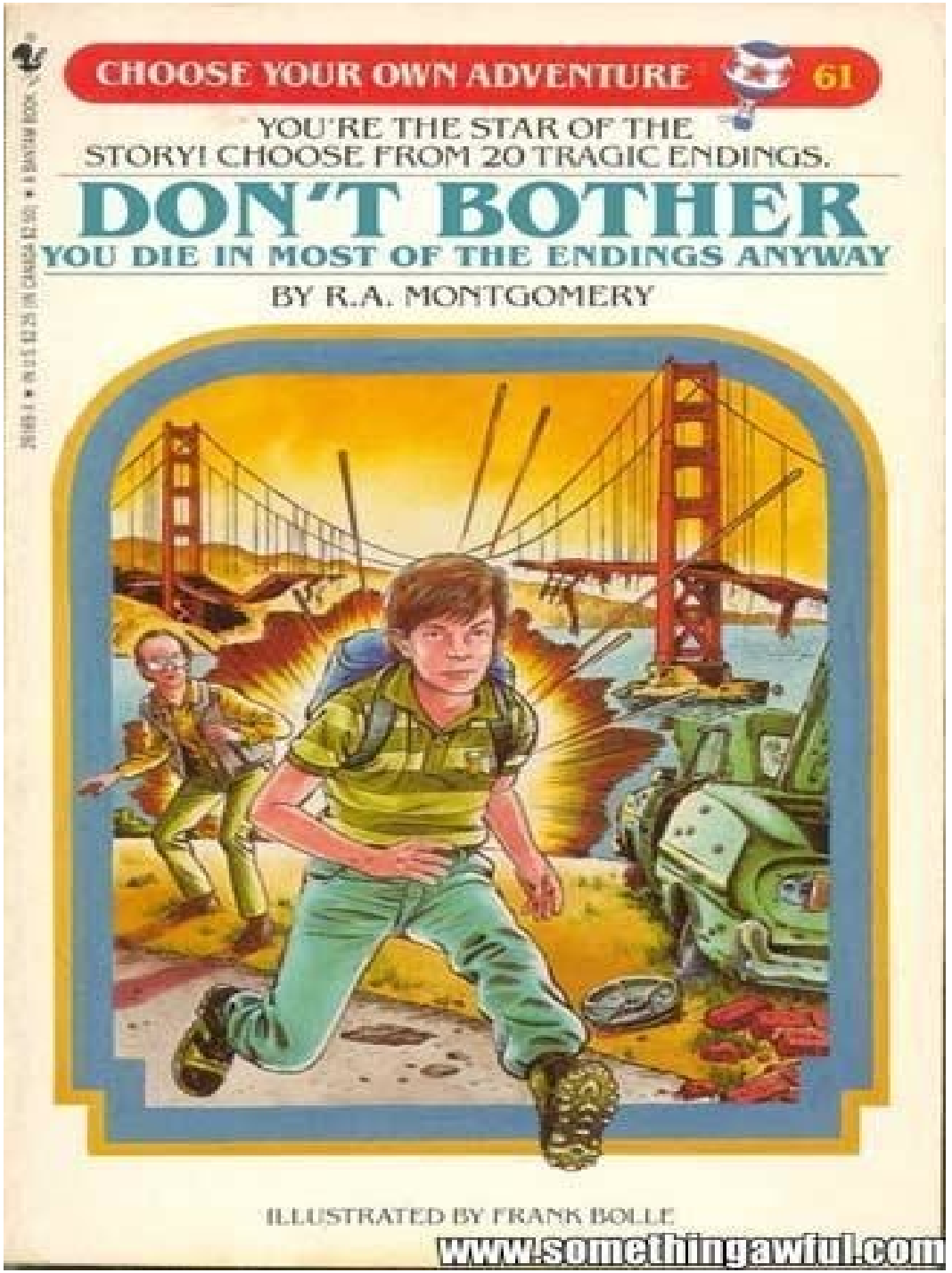
Variables

- Variables are used to tell stories
  - Let me tell you a story using variables!

Exercise

- Tell the following story using variables:
  - Michael is 30 years old
  - Sally is twice Michael's age
  - Sally is 3/4ths as old as Bill
  - Rachel is 52 years younger than Bill
  - The average age of the group is….?

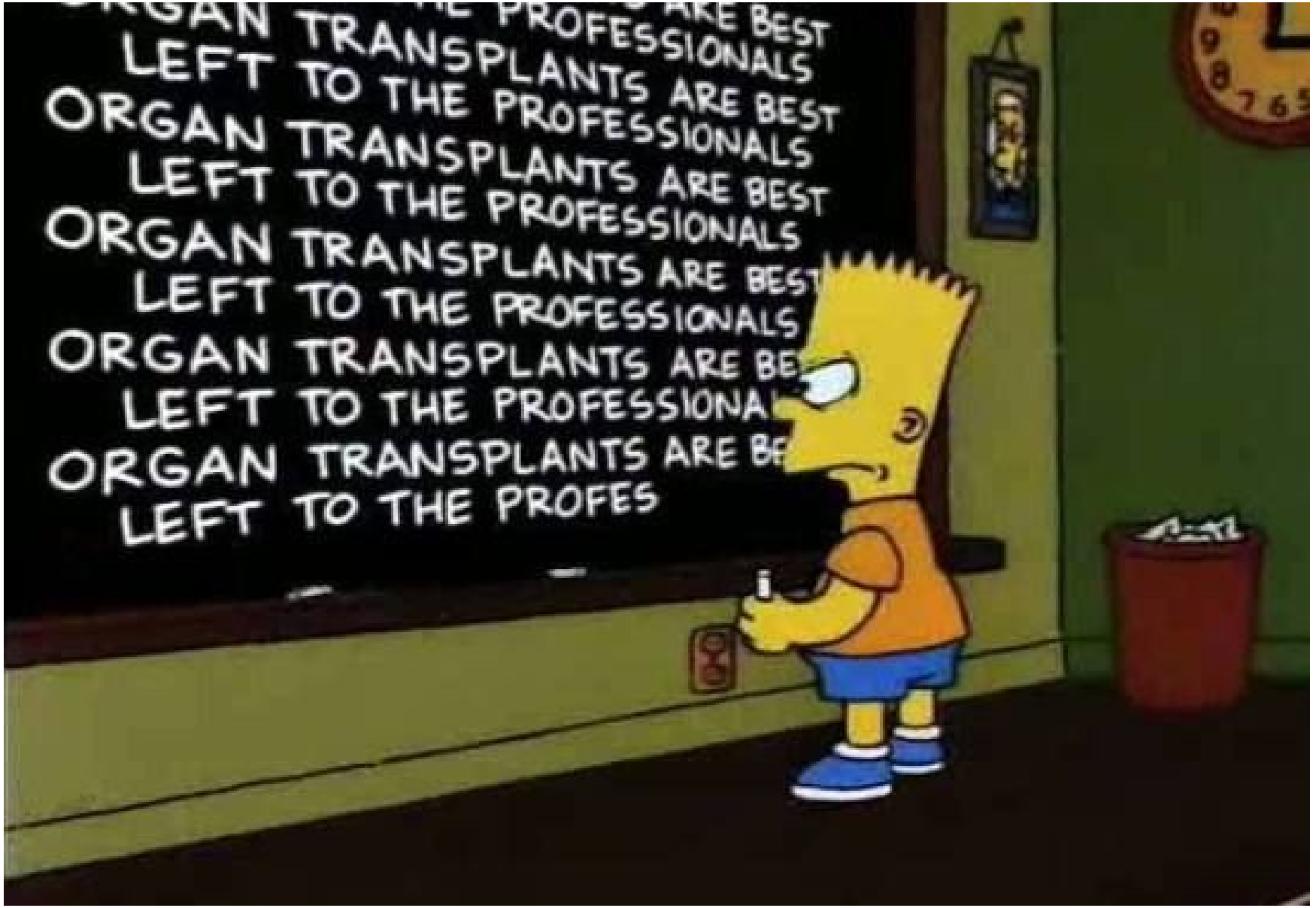
Choice


CHOOSE YOUR OWN ADVENTURE 61
YOU'RE THE STAR OF THE STORY! CHOOSE FROM 20 TRAGIC ENDINGS.
DON'T BOTHER
YOU DIE IN MOST OF THE ENDINGS ANYWAY
BY R.A. MONTGOMERY
ILLUSTRATED BY FRANK BOLLE
www.somethingawful.com

Exercise

- You are given two variables, x and y
  - Write code that ensures that x will always be larger than y, swapping them if necessary

Iteration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Exercise

- Write code (using loops!) that prints:
  - The values from 0 to 10 (inclusive)
  - The values from 1 to 10 (inclusive)
  - The values from 4 to 19 (inclusive)
  - Even values between 5 and 12 (inclusive)

Exercise

- The fibonacci sequence is given as:

  0, 1, 1, 2, 3, 5, 8, 13, ….

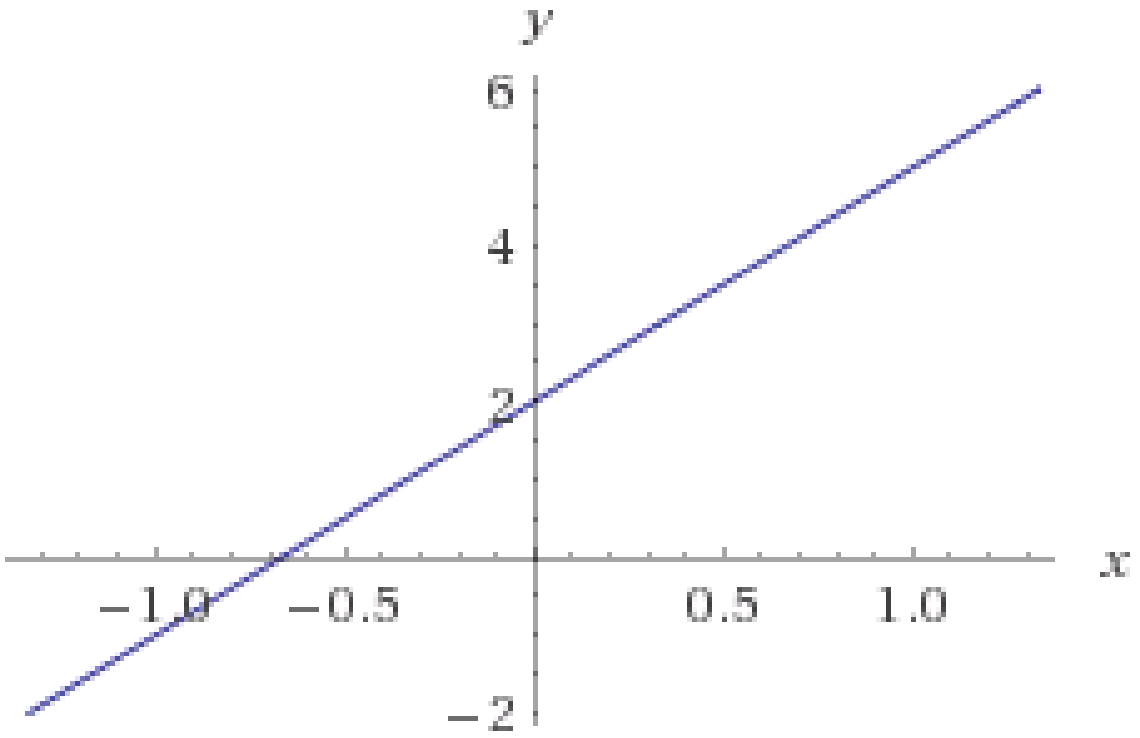
  - Write pseudocode to print the first 50 fibonacci numbers

Exercise

- Write code to do the following:
  - Your code should count from 0 to 100
  - If the current number is divisible by 3, print “fizz”
  - If the current number is divisble by 5 print “buzz”
  - If it is divisible by 3 and 5, print “fizzbuzz”
  - Otherwise, print the number

Functions

- `f(x) = 3x + 2`



(*x* from −1 to 1)

Exercise

- Change your fibonacci code to be a function. The function should take in a value called N and return the Nth fibonacci number. So if N = 1 then return 0, if N = 2 then return 1, etc.

- Write a function called mult that takes in two values, x and y, and returns the product. You may not use * to accomplish this.