Welcome to CS61A Disc. 29/47 :D

Dickson Tsai
dickson.tsai+cs61a@berkeley.edu
OH: Tu, Th 4-5pm 411 Soda

Previous stop: None **>>>**

Today: Working effectively in CS >>>

Next stop: Statements/Expressions/ Functions

Anuncios

- Lecture tomorrow 2pm Wheeler and 7pm Pimentel
- Optional ~~section homework~~ practice problems ~~for participation points (stay tuned next week! A cool system will be introduced in lecture!)~~
- Join the Piazza if you haven't already!

Meet and Greet

- For how many weeks did you travel?
- How many mass events did you attend? (e.g. sporting events/concerts/conferences)?
- How many books/movies did you complete?
- Sum that total up and write it down.
- Feel free to share your experiences with your neighbors!

It's a Race!

- Right half:
  - Drift to the side of the line you think you belong. Then fine tune.
- Left half:
  - Form groups of 2. Sort yourselves in those small groups. Then, keep combining 2 sorted groups into one big group.
- Both halves:
  - Tell me where the max begins.

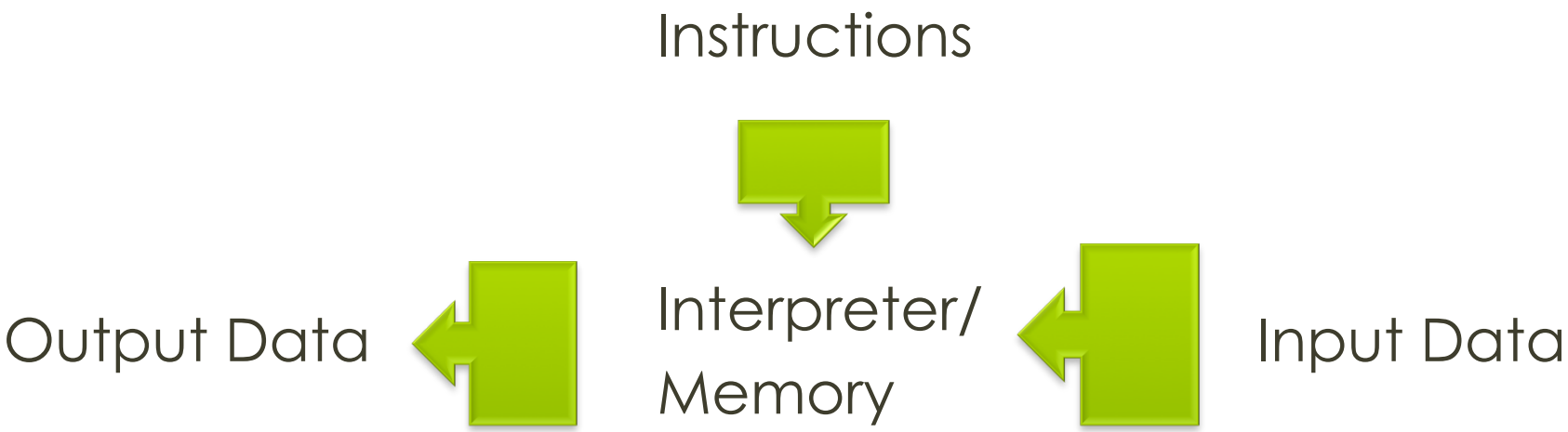
My Summer

- Did not travel ☹ Taught CS61A
- Went to ForwardJS: a Javascript conference
- Books I read over summer:
  - What Every Body is Saying (body language)
  - Everything is Obvious *Once you know the answer
  - The First 20 Hours – How to learn anything fast
  - The Art of Learning

What did I just do???

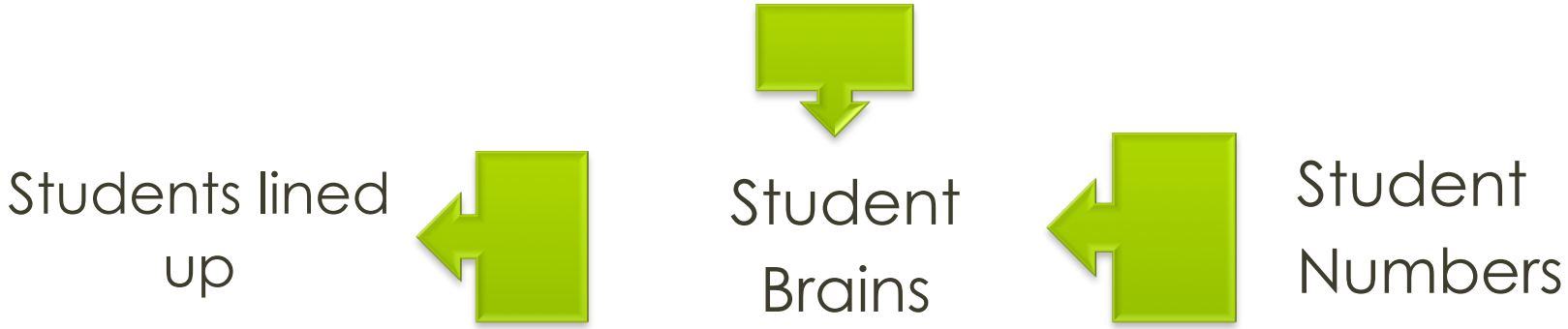
- Sorting is a *computation* – a "deliberate process" (set of instructions) that "transforms" inputs to outputs (processes data). [Some parts from Wikipedia Computation]
- In CS, we will study techniques to do computation more powerfully.
- In CS61A, we will see how *abstraction* makes complex computation more manageable.
  - E.g. Dining hall food's just there. Don't worry about where it comes from.

Basic Computer Program



Basic Computer Program

"Sort yourselves in small groups, then in larger groups!"



Lost on the Moon

- Put ALL electronic devices/distractions away. *Humans are bad at multitasking.*
- Take 10 minutes to complete this activity alone.
- Now take a 2 minute break.
- Form groups of 3. Talk over your answers. The more debate the better.

Lost on the Moon *(Solutions)*

- Evaluate your thought process. Don't focus so much on the solutions.
  - If your answer is right, see what allowed you to get it right.
  - If you answer is wrong, what parts of your approach should you change for next time?

This worksheet seemed random???

- Show of hands: how many people's group score was better than the individual score?
- Personal anecdote: chess over the summer.
- Groups are powerful!
- CS application: It's better to have clusters of computers rather than one super-expensive computer.

Tools

- Composing Programs – your online textbook
- Ipython Notebook – Take notes w/ Python!
- PythonTutor – Environment diagrams
- Google + StackOverflow – google all your problems. Stackoverflow usually has good answers to your question
- duckie.me
- pydoc3 – on the command line

Mastering CS

- There are millions of people learning CS right now! How do you make yourself stand out?
- My observations:
  - All start with the same resources: documentation/what's online.
  - What matters: how you combine them to make powerful stuff.
- Actionables
  - You must know the basics inside-out. Don't try anything challenging until you have an intuition for the basics. *Practice*!
  - Then, *practice* putting pieces together! Be creative! Solving hard problems is a nice side effect.
    - E.g. functions that return functions???? List + trees, func + dicts
    - Don't feel bad about mistakes or bugs, especially in discussion. They will happen, and you'll be stronger for them. ☺
    - (Hint: Google your bugs.)

Example: printing

- Classic CS Example: Print "hello world to the terminal
- Python
  - `print("Hello, world!")`
- Questions?
  - Can you print numbers?
    - `print(2)`
  - Can you print multiple things?
    - `print("hello", "world")`
  - Can you print something with dickson after?
    - `def print_with_dickson(x):`
      `print(x, "dickson")`

Look! Function + print!

Final Remarks

- Come prepared to discussion! (i.e. reading done, have questions/insights to share). Don't fall behind!
- If you're too tired, might as well take a nap in your dorm, right?
- I'm not omnipotent. *You* have to put in the work to learn. I'm here to share my experience and my insights.
- Everything has a purpose! Try to figure the purpose out with *simple examples!*
- Let's have a fun semester!