15-213 Recitation: Data Lab

___TA___
Sept 10, 2018

Agenda

- Course Details
- Data Lab
  - ANSI C
- Floating Point

Course Details

- How do I get help?
    - Course website: http://cs.cmu.edu/~213
    - Office hours: **5-9PM** from Sun-Thu in Wean 5207
    - Piazza
    - *Definitely* consult the course textbook
    - **Carefully read the assignment writeups!**
- All labs are submitted on Autolab.
- All labs should be worked on using the **shark machines.**

Data Lab: Logistics

- How do I get started?
  - Use link in writeup to create git repository
  - From command line: *git clone <url>*

- Use this lab to get good at git

- Bootcamp Slides:
  http://www.cs.cmu.edu/~213/activities/linux-bootcamp/linux-bootcamp.pdf

Data Lab: What is ANSI C?

This is *not* ANSI C.

```
unsigned int foo(unsigned int x)
{
    x = x * 2;
    int y = 5;

    if (x > 5) {
        x = x * 3;
        int z = 4;
        x = x * z;
    }

    return x * y;
}
```

Within two braces, all *declarations* must go before any *expressions*.

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Form Groups of 3 - 4

- Series of exercises
  - Operators
  - Floating point
  - Puzzle

Floating Point: Rounding

1.BBGRXXX

- ■ Guard Bit: the least significant bit of the resulting number

- ■ Round Bit: the first bit removed from rounding

- ■ Sticky Bits: all bits after the round bit, OR'd together

Examples of rounding cases, including rounding to nearest even number

- ■ 1.1011: More than ½, round up: 1.11

- ■ 1.1010: Equal to ½, round down *to even*: 1.10

- ■ 1.0101: Less than ½, round down: 1.01

- ■ 1.0110: Equal to ½, round up *to even:* 1.10

- ■ 1.0100: Equal to 0, do nothing: 1.01

- ■ 1.0000: Equal to 0, do nothing: 1.00

All other cases involve either rounding up or down - *try them*!

Questions?

- Remember, data lab is due this Thursday!
  - You really should have started already!
- Read the lab writeup.
  - **Read the lab writeup.**
    - ***Read the lab writeup.***
      - ***<u>Read the lab writeup.</u>***
        - » **<u>Please. :)</u>**