Midterm 2 Review & More

Lecture 19
Class 21 of 28 | March 30th 2023 | COMP 211-002 | Joshua Bakita

Welcome!

Today:

- ➔ Midterm 2 Review
- ➔ Assignment 2 Review

Logistics:

- ➔ Midterm 2 scores posted

Fun fact…

The Student Safety and Security Committee, a part of Student Government, recently funded $10,000 to permanently install three picnic tables outside Sitterson Hall!

More info:
https://www.cs.unc.edu/~jbakita/sssc/tables.html

Midterm 2 Review

This was a challenging test

Note that these slides have been updated since class to reflect the correction to Q. 1.1.2, and the addition of one more test from Thursday morning

The Good News

Very happy with the scores on 1.3.2 and 1.4.2—these were unexpectedly good.

Glad to see that folks have paid attention to what makes fast programs, and how to do basic debugging in `gdb`!

Midterm 2 Review

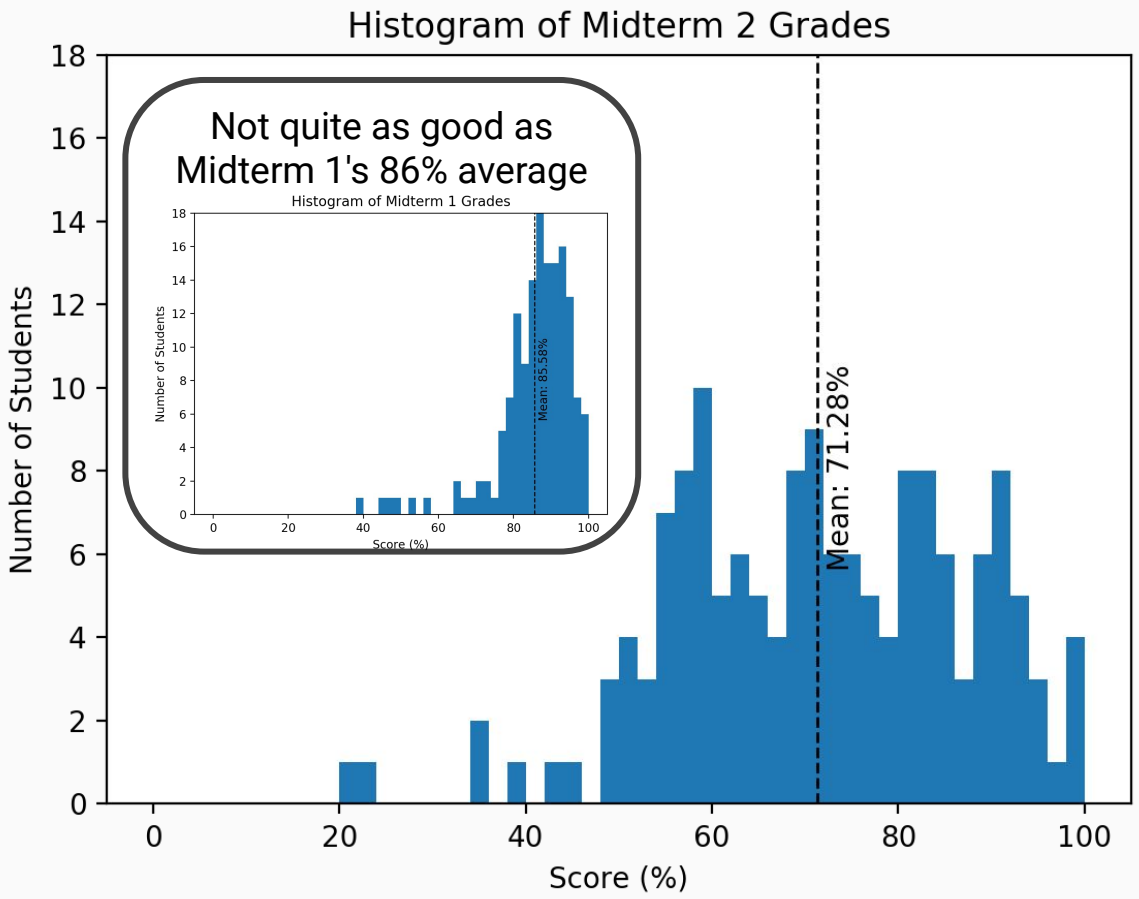
Statistics

Raw Scores:

- ➔ Best: 22.0/22 (100%)
- ➔ Worst: 4.4/22 (20%)
- ➔ Avg (mean): 15.7/22 (71%)

Top missed questions:

1. Q. 1.4.4 (93%)
2. Q. 1.2.5 (66%)
3. Q. 1.2.6 (65%)
4. Q. 1.2.8 (55%)
5. Q. 1.1.1 (51%)
6. Q. 1.1.2 (47%)
7. Q. 1.1.7 (44%)



Midterm 2 Review

Q. 1.4.4: "Invalid read of size 4"

Correct:	6.6%
Partial:	50.7%
Negative:	40.8%
Blank:	2.0%

Q. 1.2.5: Results of a page fault

Correct:	34.2%
Partial:	65.1%
Negative:	0.0%
Blank:	0.7%

Partial Credit Breakdown:
~~0% Selected C~~
80% Selected B
72% Selected C
64% Selected D

Midterm 2 Review

Q. 1.2.6: `fwrite()` implications

Correct:	35.5%
Partial:	50.0%
Negative:	9.2%
Blank:	5.3%

Partial Credit Breakdown:
95% Selected A
81% Selected B
~~15% Selected C~~
52% Selected D

Midterm 2 Review

Q. 1.2.8: Filling filesystem blocks

Correct:	44.7%
Incorrect:	53.9%
Blank:	1.3%

Midterm 2 Review

Q. 1.1.1: Using a function pointer

Correct:	48.7%
Incorrect:	50.7%
Blank:	0.7%

Midterm Review

Q. 1.1.2: Pointer math

Correct:	52.6%
Incorrect:	46.7%
Blank:	0.7%

Code available at
https://www.cs.unc.edu/~jbakita/teach/comp211-s23/l19/deref.c

Nearly identical to the Poll Everywhere question in Class 13

Midterm 2 Review

Q. 1.1.7: Using `static`

Correct:	55.9%
Incorrect:	44.1%
Blank:	0.0%

Code available at
https://www.cs.unc.edu/~jbakita/teach/comp211-s23/l19/static.c

The Better News

I'll curve, likely at least giving everyone back points for Q. 1.4.4.

AND

Your grade on the Final Exam can now replace the lower of your two midterm grades.

Assignment 2 Solution

Let's have some fun with it…

Assignment 2 Solution

Let's take a look at my solution…

Essentials

- ➔ `fread()` directly into the bytes of a TetrisGameState
- ➔ Open file as both readable and writable
- ➔ Check library functions for error codes
- ➔ Use `stderr` for error messages
- ➔ Parse numeric input into a larger type, so that we can verify it's in range
- ➔ Reset file index with `fseek()` before `fwrite()`

Fun

- ➔ `#define` the filename to avoid duplication
- ➔ Use a `goto` to avoid duplicated error lines
- ➔ Rely on the fact that a negative number, viewed as an unsigned number, is large
- ➔ Use a `switch` rather than repeated `if`s
- ➔ Skip expensive `strcmp()` calls, and just check the first character

See the other screen for my code.

Questions?

Assignment 5 partly written, will be posted later today.

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Old Well, University of North Carolina at Chapel Hill, Winter 2017