

COLLEGE OF ENGINEERING School of Electrical Engineering and Computer Science

CS 161 Introduction to CS I

Lecture 12

- What we learned from Midterm 1
- Variable scope
 - Pass function arguments by value or reference
- Assignment 3 tips





Midterm 1 Solutions

- Even if you don't know some of these now... you will!
 - Errors highlight for you what to focus on studying
- Average: 84%
- Solution (form K) is posted on course website
 - Calendar -> 02/03 (lecture 12)
 - Direct link:

http://classes.engr.oregonstate.edu/eecs/winter2020/cs161-020/calendar/CS161_Midterm_1_W20_form1_soln.pdf



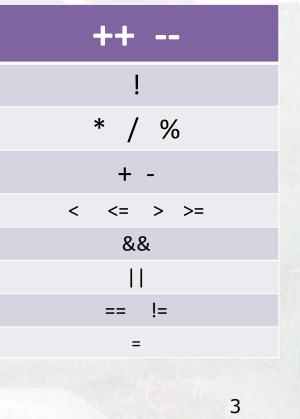
Midterm 1

- Part I
 - 3: operator precedence
 - 6: random number ranges what does rand() return?
- Part II
 - 1: integer math
 - 2: Linux command from Lab 2
 - 3: operator precedence
 - 4: data type min/max values

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Operator precedence





Midterm 1

- Part II (cont.)
 - 5: no curly braces this is okay (but only uses first such line)
 - 6: no break statements
- Part III
 - 6: any option is good if you have a good reason for it
 - 7: short-circuit only happens if evaluating one expression renders the next one irrelevant
 - 8: operator precedence and what is %?
 - 9: variable scope

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Midterm 1

- Part III (cont.)
 - 10: integer math; stop for loop when x<0 is false
 - note: loop counter update happens after iteration completes
 - 11: check for even values
 - 12: start at 'r' and go backwards to 'n'
 - 13: stop for loop if x >= 10 or if x>3 (break)
 - 15: nested loop: a has the same value until b loop finishes
 - 19: you can loop on one variable (m) and output a different one (num)
 - What is the value of a loop counter when the loop ends? (condition Is false)

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Midterm 1: Extra credit question 1

- "without using a conditional statement" means no if-then or switch; for/while/do-while ok
- New extra credit item on Canvas: "Midterm 1 extra credit"
 - Due midnight Tuesday, Feb. 4



Midterm 1: Also...

- If-then VS. switch you can use an expression with switch
 if your cases are true and false.
 You will however get a compiler warning.
 switch (10 > 8) {
 case true: cout << "10 is > 8" << endl; break;
 case false: cout << "10 is not > 8" < <endl; break;
 }</pre>
- Conditional/ternary operator: these lines are equivalent
 - k = (3 < 4) ? 10 : 20;
 - if (3 < 4) { k = 10; } else { k = 20; }
- Semi-colon is required at end of statement, not line



Study sessions start this week

- Thursdays, 6-7 p.m., LINC 268
- Print out the worksheet (from course website calendar) and complete it in advance
- http://classes.engr.oregonstate.edu/eecs/winter2020/cs16
 <u>1-020/calendar/WS5_W20.pdf</u>
- The TA study session leader will go over the answers



Assignment 3 tips

- No global variables, no goto
- C++ buffers output; if you print only a single character it may not show up for a while (until next endl)
 - Solution: use flush to "flush" the buffer immediately
 - This is actually std::flush
- How to modify the current line of output, instead of going to the next line?
 - Use \b (backspace) in your string
 - Use \r (carriage return) in your string (and flush)



Week 5 begins!

 Attend lab 5 (laptop required) – Practice Proficiency Demo
 Read Rao Lesson 7 (pp. 166-167) – functions Read Rao Lesson 8 (pp. 205-210) – references
 (Optional) Attend Study Session (Thursday, 6-7 p.m. in LINC 268)
 Continue working on Assignment 3 implementation (due Sunday, Feb. 9)

See you Wednesday!

2/3/2020