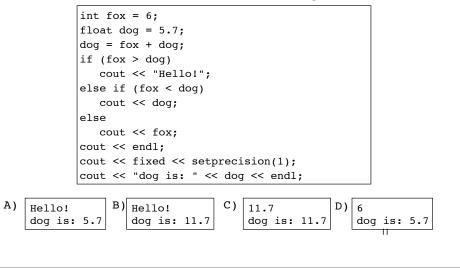
Exam 1 Review	Exam 1
CS 1428 Fall 2015 Jill Seaman	 Wed, September 30 In class, closed book, closed notes, clean desk 15% of your final grade 80 minutes to complete it Bring your ID card!!!! Bring a number 2 pencil! (and eraser) NO: calculators or cell phones. NO: headphones/earbuds.
 Exam Format 100 Points total 56 points: multiple choice and T/F (scantron form) 44 points: writing code on the test paper programs and individual statements Tasks: Tracing code (what is the output) Finding errors in code Evaluating C++ expressions Demonstrate general knowledge about C++ and programming Programming (writing code) 	Content from Textbook Week 0 through Week 4: • Chapter 1: 1.1-3 • Chapter 2: 2.1-17 (except 2.11) • Chapter 3: 3.1-10 • Chapter 4: 4.1-9 • Chapter 5: 5.1 and 5.11 (first half) See reading list online for specific topics of each section

Intro to Computers and Introduction to C++ Programming Literals: numbers, characters, strings Definitions: Computer, Program, Programmer Special characters Hardware vs Software Identifiers, rules for valid names · Hardware components: (cpu, main memory, Variable Definitions and Initialization secondary storage, input and output devices) Assignment Statements Program vs. Algorithm Programming languages: machine lang vs low Data Types level lang vs high level lang int, short, long, float, double, bool, char, string • Compilation: source code file -> executable values/ranges (rough idea) Execution suitability of each for various types of data Scope rules, comments, named constants 5 **Expressions and Types** Assignment operators Numerical Expressions Multiple assignment Operators: +, -, *, /, % (modulus) \bullet a = b = c = 4; Precedence rules, parens () Combined Assignment operators Type Conversions: binary operations Increment and Decrement assignment ▶ x++ y-- explicit type casting Hand Tracing a program Integer division vs float division Pow(a,b) and other Math library functions

Input and output Ifs and boolean expressions cout, stream insertion operator (<<), endl Relational and Logical Expressions ▶ Rel. Operators: < <= > >= == != cin, stream extraction operator (>>) ▶ Logical Operators: ! && || formatting: setw, setprecision, fixed, left/right Precedence rules, parens inputting characters and strings • if statements: > vs getline(cin,var) ▶ if using cin.ignore() to solve problem of >> followed by getline if-else using file stream objects for file I/O: nested if statements using ifstream, ofstream variables if-else if (reformatting of nested if statements) open and close, << and >> block or compound statement 9 10

Sample problem: what is output?

• What is the output of the following statements?



Sample problem: Programming

 Write a C++ program that reads a floating point number representing the side of a square from a file named "test.txt" and outputs the area of the square formatted to five decimal places. If the area is greater than 1,000, it should also output the following statement:

That's really big!

How to study

- Review the slides
 - understand all the concepts, quiz yourself
- Use the book to help understand the slides
 - there will be no questions over material that is in the book but not on the slides
- Review programming assignments (fix yours!)
 - get printouts of solutions 2 and 3 up front or in my office
- Try some exercises from the book
- Practice, practice, practice! Write code!
- Get some sleep

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