

16.216: ECE Application Programming

Fall 2012

Lecture 6: Key Questions September 17, 2012

1. Convert the flowchart you wrote into a C program.

2. Explain the useful features of a debugger.

Note: At this point, we'll run through the use of the Visual Studio debugger; feel free to use this space to take notes on that demonstration.

3. What are the basic binary arithmetic operators supported by C?
4. Explain the modulus operator (%).
5. What determines the type of a binary operation's result?
6. What is the difference between division of integers and floating-point types?

7. Explain the operation of the unary negation operator (e.g., $-x$).
8. **Example:** Evaluate each of the following expressions, including the type (`int` or `double`) in your answer.
- a. $19/3$
 - b. $3/19$
 - c. $19\%3$
 - d. $3\%19$
 - e. $5 + 7/2$
 - f. $5.0 + 7/2$
 - g. $5 + 7.0/2$
 - h. $5 * 3 \% 3 / 6 + 14 + 10 / 2$
 - i. $5 * (3 \% 3) / 6 + 14.0 + 10/3$

9. Describe the C bitwise operators.