16.216: ECE Application Programming

Fall 2013

Lecture 6: Key Questions September 16, 2013

1. Example: Assume int x = 123; float y = 4.56; double z = 7.89991;

What does each of the following lines print?

a. printf("%4d %5f %6lf\n", x, y, z);

b. printf("%.4d %.4f %.4lf\n", x, y, z);

c. printf(" $\$08d \$-7.1f \$+-4.1lf !\n", x, y, z$);

- M. Geiger Lecture 6: Key Questions
- 2. **Example:** Write a short code sequence to do each of the following:
- a. Print three integers—x, y, and z
 - Use field widths of 10, 20, and 30, respectively
 - Put an extra space between each field
 - Show the signs of all values and left justify them

- b. Print four doubles—d1, d2, d3, d4
 - Use field widths of 7 for all values
 - Put an extra space between each field
 - Show 1, 2, 3, and 4 places after the decimal point, respectively

- c. Given three variables—int w, p; double var;
 - Read values for w and p from the input
 - Print var using field width w and precision p

3. Explain the basic form of an if statement.

4. Describe how the expression in if (<expression>) is evaluated and show how conditions are evaluated, including multiple conditions in the same expression.

5. Describe how the statement—the actual code to be executed if the condition is true—is written for an if statement.

6. Show how multiple if statements can be nested together (if/else if/else).