16.216: ECE Application Programming

Spring 2012

Lecture 10: Key Questions
February 13, 2012

1. Explain how to set the precision of a value printed using `printf()`, and what the precision means for the different data types.

2. **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);`

3. **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