

16.216: ECE Application Programming

Spring 2014

Lecture 6: Key Questions

February 3, 2014

1. Explain how to set the field width, alignment, and padding characters for values printed using `printf()`.
2. Explain how to set the precision of a value printed using `printf()`, and what the precision means for the different data types.

3. **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);`

4. **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