16.216: ECE Application Programming

Fall 2011

Lecture 3: Key Questions
September 9, 2011

1. Describe how to represent values in binary (base 2) and hexadecimal (base 16).

2. Explain how to convert values between decimal, binary, and hexadecimal.

3. **Example 1:** Perform the following base conversions:

a. $11_{10} = ?_2 = ?_{16}$

b. $37_{10} = ?_2 = ?_{16}$

c. $11_{16} = ?_{10}$

d. $0x2F = ?_2 = ?_{10}$

4. List the four basic data types in C, as well as the typical size and range of values for each. List some valid and invalid values for each type.

5. Explain how #define can be used to assign a symbolic name to a constant.