16.216: ECE Application ProgrammingSpring 2013

Lecture 29: Key Questions April 17, 2013

1. a.	Example: Given an unsigned int, n, and a number, b, how would you: Clear all bits of n?
b.	Clear the lower 16 bits of n (mask out lower bits)?
c.	Flip all bits of n?
d.	Flip bit b of n?
e.	Set bit b of n (i.e., make sure bit b is 1)?
f.	Clear bit b of n (i.e., make sure bit b is 0)?

2. Describe how, in general, you perform the operations below on a bit or range of bits:

a. Setting bit(s) (desired bit(s) = 1, all others unchanged)

b. Clearing bit(s) (desired bit(s) = 0, all others unchanged)

c. Flipping bit(s) (desired bit(s) change from $0 \rightarrow 1$ or $1 \rightarrow 0$, all others unchanged)

3. Describe how to extract a group of bits from a larger value.

4. Describe how to print hexadecimal values.