16.216: ECE Application Programming
Fall 2015

Lecture 12: Key Questions
October 2, 2015

1. In what cases are `for` loops useful? Describe the basic structure of a `for` loop.

2. Describe the operators that allow you to directly modify a variable without writing a full assignment statement.

3. Explain the difference between pre- and post-increment or decrement operators.

4. **Example:** What does the following program print?
```
int n = 5;
printf("n = %d\n", ++n);
printf("Now, n = %d\n", n++);
printf("Finally, n = %d\n", n);
```

5. **Example:** What does each of the following print?

```
a. for (i = 5; i < 40; i += 8)
   {
       printf("%d ", i);
   }
```

```
b. for (i = -5; i < -10; i--)
   {
      printf("%d ", i);
   }
```

```
c. for (i = 10; i <= 100; i = i+10)
   {
       if (i % 20)
           printf("%d ", i);
   }
```

```
d. for (i = 5; i < 10; i += i%2)
   {
      printf("%d ", i++);
   }
```

Finishing PE2:
Flowchart/code for 2^n

Flowchart/code for n!