

16.216: ECE Application Programming

Spring 2012

Lecture 5: Key Questions

February 1, 2012

1. (Review) Describe the use of `printf()` to print numeric values and characters.

2. **Example:** Show the output of each of the following short programs:

a.

```
#include <stdio.h>
void main()
{
    int i=2, j=3, k, m;
    k = j * i;
    m = i + j;
    printf("%d %d %d %d\n", i, j, k, m);
}
```

b.

```
#include <stdio.h>
void main() {
    double f, g;
    f = 1.0 / 4.0;
    g = f * 20;
    printf("f = %lf,\ng = %lf\n", f, g);
}
```

c.

```
#include <stdio.h>
void main() {
    int a = 5, b = 2;
    printf("Output%doesn't%make%sense", a, b, a + b);
}
```

3. Describe the use of `scanf ()` for reading input values into variables.

4. How does `scanf ()` handle whitespace and other characters in format string?

5. **Example:** Assume you have the following variables: `int i; double d; char c;`
If your program contained each of the following calls to `scanf()`, what values would be read into the appropriate variables, given user input?
- a. Input: 34 5.7
`scanf("%d%lf", &i, &d)`
 - b. Input: 34 5.7
`scanf("%d %lf", &i, &d)`
 - c. Input: 34 5.7
`scanf("%lf%d", &d, &i)`
 - d. Input: 34 5.7
`scanf("%d%c", &i, &c)`
 - e. Input: 34 5.7
`scanf("%d %c", &i, &c)`
 - f. Input: 34 5.7
`scanf("%d-%c", &i, &c)`
 - g. Input: 34-5.7
`scanf("%d-%c", &i, &c)`