

16.216: ECE Application Programming

Summer 2013

Lecture 1: Key Questions

July 9, 2013

1. Describe the key components of the basic C program shown below. What is the output of this program?

```
#include <stdio.h>
int main()
{
    printf("Hello World!\n");
    return 0;
}
```

2. What is the output of each of the following variations on the basic program shown in Question 3?

a.

```
#include <stdio.h>
int main()
{
    printf("Hello");
    printf("there");
    printf("World!");
    return 0;
}
```

b.

```
#include <stdio.h>
int main()
{
    printf("Hello\n");
    printf("there\n");
    printf("World!\n");
    return 0;
}
```

c.

```
#include <stdio.h>
int main()
{
    printf("Hello\nthere\nWorld!\n");
    return 0;
}
```

3. Describe the purpose of comments and the different types of comments used in C.

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

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

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9. **Example:** What values do w, x, y, and z have at the end of this program?

```
int main() {  
    int w = 5;  
    float x;  
    double y;  
    char z = 'a';  
    x = 8.579;  
    y = -0.2;  
    w = x;  
    y = y + 3;  
    z = w - 5;  
    return 0;  
}
```