

## PIC 10A 1C: Week 2b Discussion Problems (Thursday, 1/14/2016)

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### 1. Spot the Error

Louis Reasoner is trying to write a program, but there are some issues. Identify the mistakes, and fix them.

Desired Output:

```
The falling leaves...
```

Louis' Code:

```
include iostream

int main() {
    / displays "The falling leaves..." to the screen

    cout << "The falling"

    cout << "leaves..."

    return "goodbye!";
}
```

### 2. Code Jeopardy

Write C++ code that, when run, outputs the desired output.

Assume that we are using the standard namespace (`using namespace std;`), and that the `iostream` library is included (`#include <iostream>`).

**Example:**

Desired Output:

```
Hello World!
```

C++ Code (you fill this in):

```
cout << "Hello World!";
```

**2.a.**

Desired Output:

```
For You, "Blue"
```

C++ Code (you fill this in):

**2.b.**

Desired Output:

```
Throw the \m/ horns!
```

C++ Code (you fill this in):

**2.c.**

Desired Output:

```
A newline \n  
does that!
```

C++ Code (you fill this in):

Desired Output:

```
He "said", but 'she' said.
```

C++ Code (you fill this in):



3.e.

```
cout << "There are " << "44+55" << " red balloons.";
```

Output:

3.f.

```
cout << "w" << endl << "a\n" << "t" << "endl" << "!";
```

Output:

3.g.

```
cout << "" "" "";  
cout << "\\\\" << "///";
```

Output:

#### 4. Bases loaded!

Complete the following table, converting to/from binary/decimal as needed. The first row has been completed for you.

Decimal (Base 10)	Binary (Base 2)
3	0011
2	
	1000
15	
	1001
	0111

#### 4. From source to executable: A source file's compilation journey

Recall that a source file (ie .cpp file) is transformed into an executable via a series of steps: the preprocessor, the compiler, the assembler, and finally the linker.

For each component of the compilation process, describe the inputs and outputs, and briefly describe what each component does.

**Preprocessor**

**Compiler**

**Assembler**

**Linker**