17-355/17-655: Program Analysis
In-Class Exercises
January 17, 2017 **Andrew ID: _____**

1. Draw a parse tree for the function below. You can assume that the "for" statement is at the top of the parse tree.

```
void copy_bytes(char dest[], char source[], int n) {
        for (int i = 0; i < n; ++i)
                dest[i] = source[i];
}
```

2. Write pseudocode for a simple AST-walker analysis that warns when string concatenation occurs in a loop. You may assume Note:

- In Java and .NET it is more efficient to use a StringBuffer
- Assume any appropriate AST elements that you need

To get you started:

```
class StringConcatLoopAnalysis extends Visitor {
        void visitStringConcat(StringConcat e) {









        }









}
```