Scope Revisited

From Ms Martin’s presentation on Scope.

Scope

- The part of a program in which a declaration (i.e. of a variable or method) is valid
- Example: loop counter's scope is limited to loop itself
- Example: variables declared in main only exist in main

Scope visualized

```
public class ScopeTest {
   public static final int SIZE = 3;

   public static void main(String[] args) {
      int grade = 96;
      for(int i = 1; i <= grade; i++) {
         for(int j = 1; j <= i*2; j++) {
            System.out.print(j);
         }
         System.out.println();
      }
   }
}
```

Local variables

- Defined within a particular block
  - Only available in that block
- Localizing variables is to declare them in the most local scope possible
  - Increase readability
  - Decrease likelihood of overwriting

Valid or not?

```
for(int i = 1; i <= 6; i++) {
    for(int i = 1; i <= i + 1; i++) {
        System.out.println(i);
    }
}

for(int i = 1; i <= 6; i++) {
    System.out.println(i);
}
for(int i = 1; i <= 7; i++) {
    System.out.println("Goober!");
}

for(int year = 1; year <= 10; year++) {
    int salary = year * 1000;
}
System.out.println(salary);
```