Quiz 04

Remembering

1. Define the following terms.
   (a) Software metric
   (b) Model checking

2. What are four types of static verification?

Understanding

3. What is the difference between a tool like PyLint and a tool like FindBugs?
4. Give two reasons a formal specification can be useful, particularly given the relatively high cost of implementation over other ways of specifying desired behavior.

Analyzing

5. Give a good set of pre-conditions and post-conditions for the following method definition. You may describe your conditions in any clear formal notation.

```java
// This method inserts the given number into the array at the given
// position, increasing the size by one.
void insert( int[] numbers, int element, int position );
```
Evaluating

6. What is one benefit of model checking over theorem proving?

7. What is one benefit of theorem proving over model checking?