

Name: \_\_\_\_\_

PES, Section 1.5  
Testing

1. Explain the concept of 100% code coverage.

**When testing a program, you want to make sure that every statement executes at least once (i.e., make sure that both sides of each if-then-else statement are tested, all loops iterate at least once, etc.)**

2. What is an assertion?

**An assertion compares the B7-B0 outputs to the given expected value, and prints a warning if those values do not match. Assertion statements provide a mechanism for detecting when a program is not behaving as intended.**

3. Explain the following...

```
b00000000
wait 100 ms
assert b00000000
b00000001
wait 100 ms
assert b00000001
```

**This is an example of a test vector that also includes timing instructions.**

**The first test vector sets inputs A1A0 to 00, waits 100 ms, and checks that B0 is 0. The second test vector then sets A1A0 to 01 and asserts that B0 is 1.**