Chapter 7 Quiz

1. [3pts] Match the testing perspective to the text that characterizes it.

Black box

Testers are a different breed. They're looking for functionality, but they're usually poking underneath to make sure things are really happening the way you said they would. Testers are probably looking at the data in your database to make sure things are being cleaned up correctly; they might be checking that ports are closed, network connections dropped, and that memory usage is staying steady.

Gray box

Developers are in the weeds. They see good (and sometimes bad) class design, patterns, duplicated code, inconsistencies in how things are represented. The system is wide open to them. But sometimes because developers see so much detail, it's possible for them to miss broken functionality or make an assumption that a tester or end user might not.

White box

Your users don't see your code, they don't look at the database tables, they don't evaluate your algorithms—and generally they don't want to! Your system either does what they asked it to do, or it doesn't. Your users are all about functionality.

2. [2pts] How would you test user input validation if, say, you had a program that accepts a dollar amount?

3. [1pts] Which testing perspective were you using in the previous question?

4. [2pts] If you have a program that accepts a number for the month (i.e., 1–12), then define sensible tests that cover the underlined boundary cases.

5. [2pts] Given this user story, define a gray box test.

Title: ...Send a picture... ...to other users...

Description: Click on the "Send a Picture" button to send a picture (only JPEG needs to be supported) to the other users. They should have the option to not accept the file. There are no size limits on the file right now.

Priority: 20   Estimate: 4

6. [1pts] T or F? Testing frameworks run tests for you, but they don't write test for you.

7. [2pts] Name two advantages that automated tests have over having a person manually test the program?

8. [1pts] Detecting when a new change that you've made to your software has actually introduced bugs in the older code, called software _____, is a danger for any developer working with old or inherited code.

9. [1pts] _____ tools run your tests when you check in your code. (Hint: two words, abbreviated CI.)

10. [3pts] CI wraps ___(a)___, ___(b)___, and ___(c)___ into a single repeatable process.

11. [1pts] Code _____ is the percentage of your code that your tests are actually testing.

12. [1pts] If you're concerned with the term in the previous question, what testing perspective are you using?

13. [1pts] In practice, developers typically test 100% of their code.

14. [4pts] Define (in words) a suite of tests that would 100% test this method. Number each test.

```java
public UserCredentials login(String userId, String password) {
    if (userId == null) {
        throw new IllegalArgumentException("userId cannot be null");
    }
    if (password == null) {
        throw new IllegalArgumentException("password cannot be null");
    }
    User user = findUserByIdAndPassword(userId, password);
    if (user != null) {
        return new UserCredentials(generateToken(userId, password,
            Calendar.getInstance().getTimeInMillis()));
    }
    throw new RuntimeException("Can't find user: " + userId);
}
```