

Quiz 6 Study Guide

IT&C 210B

All quizzes in IT210 are selected response. That is, multiple choice, true/false, matching, and so forth. That means you don't need to memorize terms so long as you know their meaning. Nevertheless, this study guide uses open-ended questions to make it a more effective learning activity.

Quiz 6 covers Sessions 24 – 27. It has 23 questions and should take about 10 minutes. It is not an exam so lots of study should not be required. Just take a simple pass through this and look up anything that's not familiar to you.

Cybersecurity

Have a basic understanding of the following services and threats and malware types (See slides for Session 5)

Security Services (from the MSR cube)	Web Threats	Malware Types
<ul style="list-style-type: none">• Availability• Integrity• Authentication• Confidentiality• Nonrepudiation	<ul style="list-style-type: none">• Defacement• Infiltration• Phishing• Pharming• Insider threat• Click Fraud• Denial of Service• Data Theft / Loss	<ul style="list-style-type: none">• Virus• Trojan Horse• Worm• Rootkit• Botnet• Spyware• Keylogger• Adware• Clickbot• Ransomware

Python

Is Python strongly typed or weakly typed? How does that affect the equals operator?

In Python, how do you access a variable with global scope from within a function?

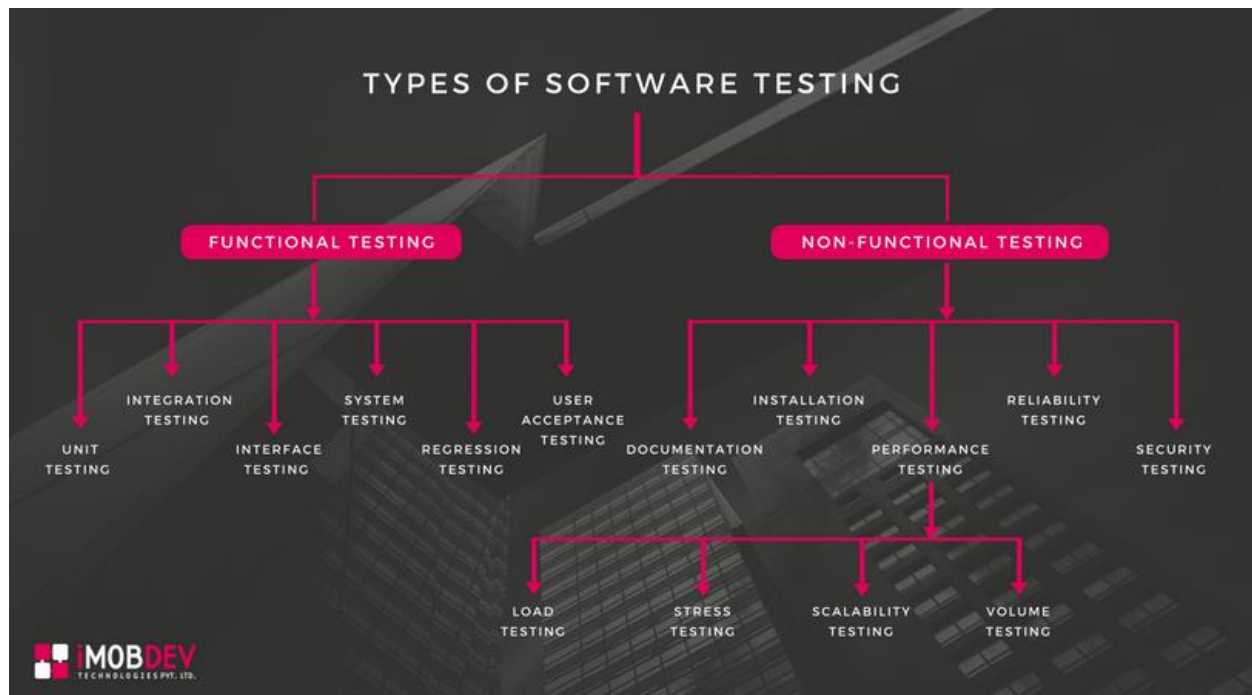
Python naturally supports procedural, object oriented and functional programming. What distinguishes these programming styles? (Note: The styles can be used together.)

Software Quality and Testing

Dimensions of Software Quality include:

- Functionality
- Reliability
- Security
- System Performance

Which types of testing in the following diagram (from session 7) would be most effective in assuring each of the quality dimensions.



Can all types of testing be automated? Are there cases that require human testing?

Web Services, APIs, REST, and CRUD

Would a Web API (e.g. REST) help you tie one back-end to multiple front ends (e.g. Desktop, Mobile, and Web)? Why or why not?

What is a web mashup? Are Web Services helpful in making mashups?

In the in-class REST demo what language was used on the server side? What was used on the client side?

CRUD is a design pattern used in databases and data services. It represents the four operations of Create, Read, Update, and Delete. Read may encompass search and the base set may be augmented with other operations.

REST is a design pattern in which a Representation of the object State is Transferred between client and server. A REST interface typically has the CRUD operations.

Is REST stateful or stateless?

Bonus Question: Which of the CRUD operations are idempotent? (Idempotence is not on this quiz, it was an IT&C 210A concept. But answering this question will help you gain a better grasp of CRUD and REST.)