

## Homework – 11

### (10 points)

Name: Patrick Woodrum

Clemson ID: C79975506

**Submission:** Save this Word document with your answers as a PDF file and upload the PDF file to Canvas.

#### Chapter 11

1. What is QA?  
**Quality Assurance (QA) is the process of rigorous testing to detect errors during implementation and to avoid problems or identify them as soon as possible.**
2. What is application development?  
**Application development is the process of constructing the programs and code modules that serve as the building blocks of the information system.**
3. Explain how structure charts are used in application development.  
**Structure charts show program modules and the relationships among them. Structure charts provide higher-level views or blueprints of how the program or project will be laid out. Symbols represent actions or conditions and can showcase couples, conditions, and even loops.**
4. Should classes be tightly coupled or loosely coupled in OOD? Explain why.  
**OOD prefers classes be loosely coupled. It makes maintenance and modification of classes and modules easier. Loosely coupling classes means the logic in one module does not affect the other modules and any changes to one will very loosely affect the other.**
5. What is pair programming?  
**In pair programming, two programmers work on the same task on the same computer. One of them drives (programs) while the other navigates (watches). The navigator examines the code strategically while the programmer focuses on tasks at hand.**
6. What role do IDEs play in coding?  
**Integrated Development Environments make it easier to program interactive software products by providing built-in tools and advanced features for error detection, syntax hints, browsers, and version control.**
7. Describe three main types of testing and the order in which they are performed.
  1. **Unit Testing – identify and eliminate execution errors by doing individual program or module testing**
  2. **Integration testing – testing two or more programs that depend on each other**
  3. **System Testing – involves entire information system testing, including all likely processing situations and is intended to assure users, devs, and managers that the program meets all specifications and that all necessary features have been included**

8. What are the differences between program, system, operations, and user documentation?  
**Program documentation is overall documentation consisting of modules that are well supported by internal and external comments and descriptions. System documentation is a description of the system's functions and how they are implemented in the program. Operations documentation contains the information needed for processing and distributing online and printed output. Lastly, user documentation is the instructions and information the user will have on how to interact with the system.**
9. What is the role of online documentation?  
**Online documentation provides immediate help to users when they have questions or encounters problems and usually contains part or all of every type of documentation.**
10. What is the difference between an operational environment and a test environment?  
**The operational environment is the environment for the actual system operation including hardware and software configurations, system utilities, and communications resources. Test environments are the environments that analysts and programmers will use to develop and maintain these programs.**