

Software Engineering, ESOF 322, Fall 2019
Exam 2, Nov. 25

Multiple Choice

1. Which of the following is NOT one of the high level statements of the Agile manifesto, created in 2001 at The Lodge at Snowbird ski resort in the Wasatch Mountains of Utah? (4 pts.)
 - a. Responding to change over following a plan
 - b. Working software over comprehensive documentation
 - c. Customer collaboration over contract negotiation
 - d. Frequent delivery over bulk deployment
 - e. Individuals and interactions over processes and tools

2. An I/O unit designed to perform all the different reads and writes to the different devices would best be considered what type of cohesion? (4 pts.)
 - a. Coincidental
 - b. Logical
 - c. Temporal
 - d. Procedural
 - e. Functional

3. A print module that accepts a Person entity and retrieves its social security number to construct a message is best considered what type of coupling? (4 pts.)
 - a. Content
 - b. Common
 - c. Control
 - d. Stamp
 - e. Data

4. Consider the comment “GetAllUsers returns all users from the database as a list.”
- ```
// GetAllUsers returns all users from the database as a list.
func (UserRepo) GetAllUsers() ([]User, error) {
 users := []User{}
 if err := db.Select("userId, uName, usernameCAS,
 activeFlag").Order("userId").Find(&users).Error; err != nil {
 return nil, err
 }
 return users, nil
}
```

This comment is best classified as which of the following types? (4 pts.)

- a. Repeat of the code
  - b. Explanation of the code
  - c. Summary of the code
  - d. Description of the code intent
  - e. Give external references
5. The term “Software crisis” was first used at a NATO conference held in Germany. This was in what year? (4 pts.)
- a. 1968
  - b. 1978
  - c. 1980
  - d. 1990
  - e. 2000
6. Which of the following would NOT be considered a verification activity? (4 pts.)
- a. Design review
  - b. Screen prototyping review
  - c. Code inspection
  - d. Test plan review
  - e. Integration testing

### Short answer

7. For each of the following, tell if the activity is a white box or black box activity.  
(5 pts.)

Unit testing

Acceptance testing

Black box

Statement coverage

Testing for memory leaks

White box

Equivalence class testing

8. UML diagrams can be split amongst structure, behavior and interaction diagrams.  
List and describe 2 diagrams in each group. (6 pts.)

Structure diagrams

1.

2.

Behavior diagrams

1.

2.

Interaction diagrams

1.

2.

9. The following password field accepts a minimum of 6 characters and a maximum of 10 characters. (5 pts.)

**Enter Password:**

- Describe the process of equivalence partitioning, and give a set of test cases, with expected outcomes, to test entering passwords using equivalence partitioning.
  
- Describe the process of boundary value analysis, and given a set of test cases, with expected outcomes, to test entering passwords using boundary value partitioning.

10. List the 5 components of software used to estimate unadjusted function points, giving examples of each component taken from the creation of an AbOut web service.  
(10 pts.)

11. List the 5 steps of test-driven development, describing any step that isn't obvious.  
(10 pts.)