جامعة القاهرة

كلية الحاسبات والمعلومات

Quiz #1 Spring2022

| قسم: Software Engineering | تاريخ : |
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| اسم المقرر: SC359 | المدة: min |
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The estimated time for each part is indicated by E.T.

# MCQ Write the letter of the most correct answer

Part A: Lec1&2 Product Quality & Measuring system complexity:

1. What is software quality?

| 1. The ability of software to fit for its purpose | 1. The cost of software development |
| --- | --- |
| 1. The number of features in a software | 1. The size of the software |

1. Which of the following is NOT a software quality factor (SQF)?

| 1. Correctness | 1. Reliability |
| --- | --- |
| 1. Accessibility | 1. Usability |

1. Which of the following SQFs is affected by product revision requirements?

| 1. Portability | 1. Maintainability |
| --- | --- |
| 1. Usability | 1. Integrity |

1. How is correctness measured as a primary SQF?

| 1. By measuring the number of bugs per thousand lines of code | 1. By measuring the average time it takes to analyze a bug report |
| --- | --- |
| 1. By measuring the probability of attacks on a product | 1. By measuring the number of features in a software |

1. What is the definition of integrity attack?

| 1. The likelihood that an attack of a certain type will be repelled | 1. The likelihood that an attack of a certain type will occur within a given time |
| --- | --- |
| 1. The sum of all attack types that occur against a system | 1. The sum of all SQFs that are affected by product transition requirements |

1. What is the difference between white box testing and black box testing?

| 1. White box testing is used to check the correctness of the implementation details, while black box testing is used to test that each aspect of the customer’s requirements is handled correctly. | 1. White box testing is used to test that each aspect of the customer’s requirements is handled correctly, while black box testing is used to check the correctness of the implementation details. |
| --- | --- |
| 1. White box testing and black box testing are the same thing. | 1. White box testing is used for hardware testing, while black box testing is used for software testing. |

1. What is the purpose of black box testing?

| 1. To test the correctness of the implementation details. | 1. To test the functionality of the software without considering its internal structure or implementation details. |
| --- | --- |
| 1. To test the hardware components of the software system. | 1. To test the performance and speed of the software system. |

1. What is a disadvantage of the black box testing technique of partitioning?

| 1. It does not allow all possible user-perceived functions to be tested. | 1. It requires a deep understanding of the implementation details of the system. |
| --- | --- |
| 1. It can be time-consuming and prohibitively expensive for many systems. | 1. It is only suitable for testing hardware components. |

1. What is the complexity of the following code snippet

int fun(int n)

{ int i, j;

for (i = 1; i < = n; i++)

{ for (j = 1; j < n; j + = i)

{ printf

(‘’ %d %d’’, i, j); }

}

}

| 1. O (n) | 1. O (nlog n) |
| --- | --- |
| 1. O(1) | 1. O( log n) |

1. Is the cyclomatic-complexity metric appropriate for measuring the complexity of a whole object-oriented software system?

| 1. Yes, because it can accurately capture the complexity of the class-structuring mechanisms. | 1. Yes, because it is based on the number of decision points, which are present in methods. |
| --- | --- |
| 1. No, because it is ‘blind’ to the class-structuring mechanisms that are available in object-oriented system descriptions. | 1. No, because it is only suitable for measuring the complexity of hardware components. |

Part B: Lec3&4 Securing architecture:

1. What does a software architecture describe?

| 1. The minor parts of a software system | 1. The interactions between software components |
| --- | --- |
| 1. The broad structure of a software system | 1. The specific functionalities of a software system |

1. Which architectural view addresses concurrent aspects of the system at run-time?

| 1. The functional view | 1. The process view |
| --- | --- |
| 1. The deployment view | 1. The structural view |

1. Which type of design pattern deals with solving specific code scenarios?

| 1. Architecture patterns | 1. Creational patterns |
| --- | --- |
| 1. Structural patterns | 1. Behavioral patterns |

1. What is the purpose of the Layers pattern?

| 1. To structure the architecture of a system into groups of basic functionalities | 1. To create general services for a specific application |
| --- | --- |
| 1. To address the performance issues of a system | 1. To identify and solve specific code scenarios |

1. What is the main advantage of the Layers pattern?

| 1. Lowered coupling between functionalities | 1. Replication of information across layers |
| --- | --- |
| 1. Increased performance | 1. Increased dependency between layers |

1. What is the Model-View-Controller (MVC) pattern used for?

| 1. To tightly couple the view and controller | 1. To separate the presentation from the model |
| --- | --- |
| 1. To make testing more difficult | 1. To decrease maintainability |

1. way for passing values in the form of (key, Value) pair allowing recursive data structures.

| 1. HTML | 1. XML |
| --- | --- |
| 1. JSON | 1. Both B,C |

1. What is a Web service?

| 1. A software module that supports interoperable machine-to-machine interaction over a network | 1. A form of a web application |
| --- | --- |
| 1. Where a web service is published | 1. A desktop app |

1. In the given code example, what is the purpose of the requests library?

import requests

URL = "<http://maps.googleapis.com/maps/api/geocode/json>"

location = “Suez university"

PARAMS = {'address':location}

r = requests.get(url = URL, params = PARAMS)

| 1. To import JSON data | 1. To create a web server |
| --- | --- |
| 1. To call a web API | 1. To install Flask |

1. In the given code example, what is the purpose of the following line of code?

conn = db\_connect.connect()

| 1. To connect to a web API | 1. To connect to a database |
| --- | --- |
| 1. To create a new database | 1. To install a database management system |