Tutorial/Practical 9 on Week 10 – Software Testing I

In this tutorial, you will answer some questions regarding Software Testing I

Relevant Course Materials: Week 9: Lecture and Lectorial (Software Testing I)

Relevant Assignments: Assignment 4

Part A: Software Testing Concepts (40 mins)

1. Answer the following questions

    a. What are the goals of software testing?

    b. What are the differences between software testing and software inspection?

    c. Explain White-box Testing and Black-box Testing

    d. What is Component Testing and how Component Testing is different to System Testing?

    e. Name two artefacts that can be used as the basis for system testing

    f. What is the Equivalence partitioning technique?

Part B: Test Cases for the Online Bookstore Platform (60 mins)

Imagine you (students) are a software engineer working in a software development organization and want to develop an Online Bookstore Platform using an Agile Method like Scrum. The Online Bookstore Platform stores and sells different types of books. In the following parts, you are expected to work on the design process of the Online Bookstore Platform. You have freedom and have to add more features, services, requirements, etc. to the Online Bookstore Platform.

Suppose you are going to write a function called **AddBook** in the Book class. This function can add the information of a new book to the database of the Online Bookstore Platform.

```
public void AddBook (String ID, String Title, int Quantity, double price, String Type) {

}
```

There are some constraints on this function:

a. ID should be a string that has exactly 5 characters long and starts with a digit and ends with the letter 'B'.

b. It should not be possible to add books that have titles with less than 2 words and more than 4 words.

c. The Quantity should be at least 10.

    i. For books with prices more than $100, their Quantity should be at least 20.

    ii. For Kid Books (Type= "Kids"), Quantity cannot exceed 100.

d. Prices should be more than $5 and less than $250

i. The price of Kid Books (Type= "Kids") should not also be more than $40.

You are asked to write **10 test cases** for the **AddBook** function and complete the following table.

Note 1. You may need to design different test data for each test case.

Note 2. You may need to use the Equivalence Partitioning technique

Note 3. Note: Part of Test Case 1 has been added.

Test Cases	Test Data	Expected Result	Test Result	Pass/Fail
Test Case 1. Check the function with <u>valid inputs</u>	("1abcB", "First Book", 10, 5.1, "Kids") More test data is needed here!!!!	Adding this book to the database should be successful.		
Test Case 2.				
Test Case 3.				
Test Case 4.				
Test Case 5.				
Test Case 6.				
Test Case 7.				
Test Case 8.				
Test Case 9.				
Test Case 10.				