

# UECS2354 Software Testing Assignment

## Project details

You are to develop a system for photo printing kiosk. There are 2 modules:

- Order module to get order from customer including the quantity to be printed and additional options selected. This module will pass the information gathered to the second module.
- Charge module receives information from Order module and calculate the total charge. Customer will be charged according to the quantity of photo to be printed based on the rate in Table 1. Customer can choose to use higher quality paper for printing or to add certain design effect to the photo. The charges for these additional options are listed in Table 2. This module will pass the order to Printing module, which will be provided by third party developer.

Quantity	Charge (RM / piece)
< 5	1.00
5 – 10	0.90
10 – 20	0.70
20 – 50	0.50
50 – 100	0.10

Table 1: Charge for various quantity

Option	Surcharge (RM / piece)
High quality paper	0.10
Design effect	0.10

Table 2: Charge for additional option

An order can contains multiple printing requests (i.e. customer can print different photo, with different design effect in a single order). The charge module will pass the printing requests to printing module separately, tough they are from the same order.

For example, a customer wants to print 4 photos, there will be 4 printing requests in an order. For each photo, the customer can choose the type of paper and the design effect to be used. The charge module will calculate the total charge based on the 4 printing requests and send the requests to printing module separately.

### Part A

Based on the project details, design the test cases that are going to be performed in the testing phase. There must be a clear description in every test case.

### Part B

#### Application code

Create a separate class for each modules (i.e. a class to get order from customer and another class to calculate the total charge and pass the printing requests to printing module).

It is known that the printing module contains a class named *PhotoPrinter*, which contains a method named *queueRequest()*. The *queueRequest()* method will receive request from charge module and place it into queue for printing.

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## Test code

Write test code using the JUnit framework and Mockito to test the application code.

The particular testing issues that you need to pay attention to and their associated marks are shown in the marking scheme at the end of this document. As you write your test code, include comments in your code to clearly specify which aspect of these testing issues you are addressing. For example, when creating parameterised tests, include comments to state the specific black box approach that you are using (e.g. boundary value analysis, state transition testing, etc.).

The focus is not to write as many tests as possible, but rather to create the right amount of tests necessary to verify the functionality of the methods in your application. For example, if you are using equivalence partitioning, writing tests that use all the inputs within the same partition that produce identical output from a method is a waste of space.

## Submission details

Submit the following items through email at [sorkv@utar.edu.my](mailto:sorkv@utar.edu.my):

- The Eclipse project folder that contains the source code for both the application code and the test code. The application code and test code should be placed in two separate source directories.
- A documentation that contains
  - the test cases designed in Part A
  - The test report that contains the actual results and comment about the test case (if any)

Attached the JUnit test code at the end of the documentation.

The front page of the documentation should contain the marking scheme in *STA\_Marking.docx*.