

**CONFIDENTIAL**



## **MOCK TEST (PRACTICAL)**

**SUBJECT CODE** : **SECJ1013**  
**SUBJECT NAME** : **PROGRAMMING TECHNIQUE I**  
**SECTION** : **01-09**  
**TIME** : **2.5 HOURS (8:00 - 10:30 PM)**  
**DATE/DAY** : **11 DECEMBER 2024/WEDNESDAY**  
**VENUES** : **N28 (MPK1-10, CGMTL)**

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### **INSTRUCTIONS:**

- This test consists of **TWO (2)** questions with a total of 100 marks. You must **answer all questions**.
- This is a **CLOSED-BOOK** practical test. You will complete the test by coding on a computer.
- You are provided with reference resources. **ONLY** the provided resources are **allowed** for reference.
- Referencing any other resources, including source codes, websites, or external materials, is **STRICTLY PROHIBITED**.
- The use of any artificial intelligence tools (e.g., ChatGPT, AI-based IDE extensions like Co-Pilot) is **STRICTLY PROHIBITED**.
- Perform all coding **offline** using a C++ IDE such as VS Code, DevCPP, etc.
- You must use the PC provided in the lab. Using your own computer is **NOT ALLOWED**.
- Your program will be screened for **plagiarism detection**. Ensure your work is original.
- **NO technical assistance** will be provided during the test. This includes issues such as IDE malfunctions or compilation errors. You are responsible for resolving these issues on your own.
- Questions related to the test question will not be entertained. Please read the questions carefully.
- **COMMENT STATEMENTS** in your submitted program **WILL NOT BE EVALUATED**.

### **TEST SETUP:**

This test provides essential resources, including starter code and slides, which are the only materials you may use during the test.

1. Download the **secj1013\_test2.zip** file from the link available on eLearning.
2. The ZIP file is password-protected, and the password will be given at the start of the test.
3. Once the password is received, extract the ZIP file. Inside, you will find a folder named **FULLNAME MATRICNUMBER**.
4. Rename this folder using your matric number and full name (spaces are allowed).  
Example: *NUR AINA BINTI AZMAN A23CS4567*
5. Use the renamed folder as your project directory for all test questions.
6. Launch your IDE from this folder to begin working.

### **SUBMISSION:**

1. When the test ends, step away from your computer and wait for your turn to submit.
2. The test invigilator will manually collect your program files.
3. During submission, copy only the renamed folder (as instructed earlier) to the provided portable storage device using the "**Send to**" option.
4. Leaving the test room is strictly prohibited until the invigilator grants permission.

This question paper consists of **THREE (3)** printed pages excluding this page.

### Question 1

[35 Marks]

For this question, you are given a C++ program source code named **program1.cpp**. The purpose of the program is to facilitate currency conversions from US Dollar (USD) to Malaysian Ringgit (MYR). Upon execution, the expected outcome should be as follows. Note that bold texts denote user inputs:

#### *Expected run of the program*

```
Enter the amount money you have in USD =>1000
Your money in MYR :4690

Do you want to start over? =>Y

Enter the amount money you have in USD =>400
We are unable to exchange your money

Do you want to start over? =>Y

Enter the amount money you have in USD =>2000
We are unable to exchange your money

Do you want to start over? =>N

Thank you! Have a nice day
```

The provided source code contains multiple errors, including syntax/compilation, linking, and logical issues. Your task is to identify and correct **ten (10) errors** to ensure the program compiles and runs correctly. Important notes:

- You are not allowed to delete any statements. You may only modify existing ones or add new statements if necessary.
- Comment every line of code where you make updates or modifications.
- Use numbered comments (e.g., //Error 1, //Error 2) to track your changes clearly.

Here is some points you need to take note about the program requirements:

- The exchange rate is fixed to MYR 4.69 for each USD 1
- The program will only do conversion for an amount of money between USD 500-1000.
- The program allows the user to start over or repeat the program as per user choices.

## Question 2

[65 Marks]

Develop a C++ program for a simple cash register system in the **program2.cpp** file. The program must meet the following requirements:

- a. The cashier enters the item code and the quantity purchased for each item.
- b. The program determines the item's price based on the provided item code.
- c. The cashier can continue entering multiple items until the code **0** is entered.
- d. The program calculates and displays the total amount the customer needs to pay.
- e. Your program should define the following functions:
  - i. A function that determines the item's price based on its code following the table below:

Item's Code	Price (RM)
101	9.90
201	6.90
305	7.99
404	5.99

- ii. A function that gets user inputs for the item's code. This function should only accept valid codes including **101**, **201**, **305**, **404** and **0**. For code 0, it doesn't represent an item code; rather, it signals the conclusion of user input interaction. This implies that upon entering code 0, the program will promptly display the total price the customer must pay and terminate the program.

The following figure illustrates an example run of the program.

*Expected run of the program*

```
Enter item's code=>101  
Enter amount of items=>10  
  
Enter item's code=>202  
Invalid code. Please try again!  
  
Enter item's code=>201  
Enter amount of items=>5  
  
Enter item's code=>404  
Enter amount of items=>1  
  
Enter item's code=>0  
  
Total amount to pay: 139.49
```

*-End Of Question-*