SECPH

UNIVERSITI TEKNOLOGI MALAYSIA

Programming Technique I
(SECJ1013)

LAB EXERCISE 1

Pseudo Code and Flow Chart

STUDENT NAME   : TAN XIN TIAN

LECTURER NAME : MR ALIF RIDZUAN KHAIRUDDIN

MATRICS NO.   : A24CS0198

SECTION   : 3

TARIKH   : 17 OCT 2024

LAB EXERCISE 1 (SECJ1013)
PROGRAMMING TECHNIQUE 1
SEM 1, 2024/2025

INSTRUCTIONS TO THE STUDENTS

- *This exercise must be done **individually**.*
- *Your solution must follow the input and output as required in the text and shown in the examples.*
- *Any form of plagiarisms is **NOT ALLOWED**. Students who copied other students' assignments will get **ZERO** marks (both parties, students who copied, and students that share their work).*
- *Please insert your **name, matrics number, and date** as a comment in your solution.*

SUBMISSION PROCEDURE

- *Only one file is required for the submission, which is the flow chart and pseudo code (merge the file into one pdf).*
- *Submit the assignment via the UTM's e-learning system.*

QUESTION

Construct a flow chart and pseudo code that reads an integer number and then calculates the sum of its digits. After that, identify whether the sum of digits for the integer is an even or odd number, and a multiple of 4, and/ or 5.

Hint: You should use operator divide (/) and modulus (%) and **pre-test loop** to answer this question.

Example 1
```
Enter an integer number: 1235
5 + 3 + 2 + 1 = 11
11 is odd number
```

Example 3
```
Enter an integer number: 89251
1 + 5 + 2 + 9 + 8 = 25
25 is odd number & multiples of 5
```

Example 2
```
Enter an integer number: 6545
5 + 4 + 5 + 6 = 20
20 is even number & multiples of 4
and 5
```

Example 4
```
Enter an integer number: 98762
2 + 6 + 7 + 8 + 9 = 32
32 is even number & multiples of 4
```

Note: The number in **bold** indicates input entered by the user.

Draw your flow chart using any appropriate drawing tools such as Figma, Microsoft Visio, Lucid chart or draw.io.

Pseudo Code

1. Start
2. Set sum=0
3.   Read num
4. While (num>0)
    4.1 digit = num % 10
    4.2 sum= sum + digit
    4.3 num=num /10
5. End while
6. Print sum
7. If (sum % 2 ==0)
    7.1 If (sum % 4==0) && (sum % 5==0)
        7.1.1   Print "even number & multiples of 4 & 5"
    7.2   Else if (sum % 4==0)
        7.2.1   Print "even number & multiples of 4"
    7.3 Else if (sum % 5==0)
        7.3.1   Print "even number & multiples of 5"
    7.4 Else
        7.4.1   Print "even number"
    7.5 Go step 9
8. Else
    8.1 If (sum % 5==0)
        8.1.1   Print "odd number & multiples of 5"
    8.2 Else
        8.2.1   Print "odd number"
9. End if
10. End

Flowchart