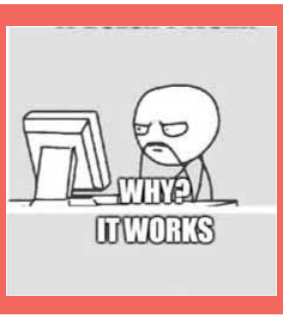
TMN4133
SYSTEM PROGRAMMING

Semester 1 2022/2023



UNIMAS UNIVERSITI MALAYSIA SARAWAK | FACULTY OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

Premier Digital Tech University™

ASSIGNMENT

1. GENERAL INFORMATION

Released Date	: 27th October 2022, Thursday
Due Date	: 25th November 2022, Friday, by 5.00pm (through eLEAP)
Mode	: Individual assignment
Weight	: 15%

Individual Assignment

You are expected to do your own work on this assignment. You may (and are encouraged to) engage in general discussions with your classmates regarding the assignments, but specific details of a solution, including the solution itself, must always be your own work.

2. TASK DESCRIPTION

Task A: Solving basic problem using C programming through manual approach vs Github Copilot (high level libraries similar to ITP course)

- You can use the gcc compiler and nano editor in your Linux environment for the manual approach and use VS Code in Windows environment for the Github Copilot approach.
- The problem needs to be solved is:
  "Write a program in C to read n number of values in an array and display it in reverse order."
- First, please attempt to solve the above problem manually (without the help of Github Copilot) and record the following:
  - How long for you to complete the task (you do not have to complete it in one go, just take note how long each time you spend in solving it as in coding using your editor). Take a screenshot of the completed code, compilation and execution as part of the report.

  - How many errors that you get upon compilation.
- Second, solve the same problem but using VS Code and Github Copilot, and measure the same parameters: time taken and number of error(s). Please take the screenshot of the completed code, compilation and execution from VS Code.

TASK B: You are required to solve system programming task as follows:

- You can use the gcc compiler and nano editor in your Linux environment for the manual approach and use VS Code in Windows environment for the Github Copilot approach.
- The problem needs to be solved is:
  "Write a full C program that enable to copy the content of one text file to another text file."
- First, please attempt to solve the above problem manually (without the help of Github Copilot) and record the following:
  - How long for you to complete the task (you do not have to complete it in one go, just take note how long each time you actually spend in solving it as in coding using your editor). Take a screenshot of the completed code, compilation and execution as part of the report.
  - How many errors that you get upon compilation.
- Second, solve the same problem but using VS Code and Github Copilot, and measure the same parameters: time taken and number of error(s). Please take the screenshot of the completed code, compilation and execution from VS Code.

TASK C:

Write half page reflection on what you think of Github Copilot as a tool to help students or programmers.

Survey link will be conducted after submission and link will be informed later.

3. REPORT GUIDELINES

Please follow the following report format

- Font: Times New Roman, 12ppt
- Single spacing
- Include
  - Faculty Assignment Cover Page
  - Introduction about Github Copilot
  - Screenshots for proof of registration for Github and Copilot
  - Task A
    - Screenshots
    - Parameters observed (in Table format)
    - Code for manual and Copilot approach

  - Task B
    - Screenshots
    - Parameters observed (in Table format)
    - Code for manual and Copilot approach
  - Task C
  - Conclusion

- Include page number

4. SUBMISSION PROCEDURE

Please submit report in pdf format through the submission link provided through the course cube in eLEAP by the due date and time.

5. GRADING RUBRICS

- 2 marks for setting up Github account and access to Github Copilot using siswa account.
- 1 mark for Report format.
- 1 mark for language (flow, grammar)
- 1 mark for completion of survey questions.
- 10 marks for Task