TUNKU ABDUL RAHMAN UNIVERSITY OF MANAGEMENT AND TECHNOLOGY

Faculty of Computing and Information Technology

AMCS1113 Computer Architecture

Assignment

202505

Course Learning Outcomes

CLO3	Produce the solution to programming problems by using assembly language skills. (P3, PLO3)

Assessment

This assignment carries a weightage of **60 marks** within the continuous assessment component of the course.

The assessment will evaluate the ability to solve programming problems in assembly language and the group's teamwork.

Please refer to the rubrics given.

Assignment Grouping

You are required to work in a group of **minimum 2 members to maximum 4 members**.

Assignment Question

A) PART A: Program Development (80%)

Design and develop an application program or system using assembly language. The system should include the following modules:

1. Login and logout module
2. Menu and submenu control module
3. Data entry module (with input validation)
4. Calculation module (functions) (processing data input)
   The system must be capable of processing at least four (4) distinct functions.
5. Data storage module (optional)
6. Report/Output module e.g. display summary, receipt, results/answers, report etc.

For example, if a group chooses to develop a marking system, the system may include the following:

- ✓ Login to the system
- ✓ Select the option to enter coursework and/or examination marks
- ✓ Input student marks
- ✓ Calculate total and average marks (2 functions)
- ✓ Assign grade (1 function)
- ✓ Calculate the CGPA (1 function)
- ✓ Store the record (optional)
- ✓ Display report

The system must include the following requirements:

- Validation and error-checking for inputs to ensure the correctness of user inputs e.g. "Invalid input. You must enter a value instead of leaving it blank."
- Arithmetic calculations e.g. sum up the all the items, calculate the interest etc.
- Confirmation to take an action e.g. "Do you want to quit the system (y/n)?"
- Guidance or message is prompted to assist user e.g. "Please enter the number between 0 and 10 in this field".

The following are examples of systems you may select, or you may propose another system (subject to discussion and approval by your lecturer):

- ➢ Inventory Management System
- ➢ Point of Sale System
- ➢ Ticket Booking System
- ➢ Payroll System
- ➢ Seat Reservation System
- ➢ Food Delivery System
- ➢ Library System
- ➢ Sales Commission System
- ➢ Appointment Scheduling System
- ➢ Venue Booking System
- ➢ Food Ordering System
- ➢ Banking Interest System
- ➢ etc.

B) PART B: Report (20%)

Each group is required to prepare a report that includes the following:

- Introduction
  - system overview
- System Modules
  - Briefly explain each module and function
- System Guide (similar to a handbook)
  - Provide clear instructions on how to operate the system.
  - Include step-by-step procedures for each function.
  - Attach screenshots with brief annotations to illustrate key steps.
- References (if any)

Instructions

Plagiarism is a serious academic offense. All forms of plagiarism are strictly prohibited, including the use of AI-generated content from tools such as ChatGPT, DeepSeek, and others. Students found submitting plagiarized assignments will be subject to penalties.

The assignment must be submitted on or before the due date set by the lecturer. Extensions will not be granted unless a valid reason is provided, accompanied by a written explanation and supporting documents. Late submissions without a legitimate reason will be subject to penalties

Submission

Students are required to upload and submit the following items to Google Classroom for final submission by Week 12 (or any other deadline set by the lecturer).

- Report (PDF, DOCX or Google Docs) with Originality Report
- Application Program / System (ASM and EXE files)