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**INTI INTERNATIONAL COLLEGE SUBANG JAYA**

**CENTRE FOR AMERICAN EDUCATION (CAE)**

**PEER - ASSIGNMENT 1 (15%)**

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| Programme Name | **AMERICAN UNIVERSITY PROGRAM (AUP)** | | | | |
| Module Name | **PROGRAMMING IN C++** | | | Module Code | **CSC206** |
| Session/Semester | **Jan 2021** |
| Lecturer Name | **K SHIVA** | | | Assessment Type | **Peer Assign 1** |
| Student Name |  | | | Matric No. |  |
| Student Name |  | | | Matric No. |  |
| Student Name |  | | | Matric No. |  |
| Student’s declaration | I hereby certify that this assignment is my own work and where materials have been used from other resources, they have been properly acknowledged. Plagiarism is the use of someone else's ideas or work (including published work from the Internet) without appropriate acknowledgment or credit. Overall plagiarism should not exceed more than **20%** [All the tasks, which is including bibliography, reference, citation, and some part of the programs]. Maximum of **5%** plagiarism (including citation, reference) will be accepted on every individual task. This is an academic misconduct, which will result in the award of a zero mark.  **Penalty for late submission**   |  |  | | --- | --- | | 1 day late | Deduction of 20% | | 2 days late | Deduction of 50% | | 3 day or more days | Zero (0) mark awarded |   Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |
| Learning Outcomes (s) / | * **LOC 1**: Evaluate programs using object-oriented approach (C5, PLO2) | | | | |
|  | * **LOC 2**: Solve a suitable solution for any given problem using C++ programming language (C3, PLO1) | | | | |
| Release Date | **25.01.2021** | Due Date | **22.02.2021 before 9AM** | | **Marks obtained** |
| Date Received |  | email | **sivakumar.kalimuthu**  **@s.newinti.edu.my** | |

PEER ASSIGNMENT SPECIFICATION

You are required to involve in a group of 2-3 members or individually, to design **and develop a **C++**** application which performs the following tasks by using appropriate *comments, variable usage, program logic, I/O statements, looping structure, with proper validation, and user friendly* program solution with ALL the possible output screens as your evidence

**Task 1 (10%):**

Write a C++ program which accept **FIVE (5)** numbers from user (input) as only integer type (example 78, 34, 89, 12, 60) and calculate sum and average of numbers as float type.

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| Program (**10** pts) | **(Excellent)** | **(Good)** | **(Fair)** | **(Poor)** |
| Program execution, correct output, design of the solution. | Program executes correctly with no syntax or runtime errors. Including validation (8-9). | Meet the basic requirements but acceptable (7-6) | Program executes with a minor (easily fixed error) (5-3) | Program does not execute (0-2) |
|  |  |  |  |  |
| Task done by |  | | | |
| Demonstrator name |  | | | |

**Task 2 (20%):**

Write a C++ program that lets the user perform arithmetic operations on two numbers. Your program must be **menu driven**, allowing the user to select the operation (+, -, \*, /) and input the numbers. Furthermore, your program must consist of following functions:

(Note: menu driven means, an **interface** consisting of a series of screens which are navigated by choosing options from lists, i.e. menus. Because of their simplicity, **menu**-**driven interfaces** are commonly used for walk-up-and-use systems, such as information kiosks and ATMs)

* Function **showChoice**: This function shows the options to the user and explains how to enter data.
* Functions **add**: This function accepts two numbers as arguments and displays sum value.
* Function **subtract**: This function accepts two number as arguments and displays their difference.
* Function **multiply**: This function accepts two number as arguments and displays their product.
* Function **divide**: This function accepts two number as arguments and displays quotient.

**Hint: On every subsequent selection, your program to require to ask the user to continue the next selection or need to quit.**

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| Program (**20** pts) | **(Excellent)** | **(Good)** | **(Fair)** | **(Poor)** |
| Program execution, correct output, design of the solution | Program executes correctly with no syntax or runtime errors. Including validation (16-18) | Meet the basic requirements but acceptable (11-15) | Program executes with a minor (easily fixed error) (10-5) | Program does not execute (0-4) |
|  |  |  |  |  |
| Task done by |  | | | |
| Demonstrator name |  | | | |

**Task 3 (20%):**

MIX, a software company provides petrol allowance for staffs that are frequently on travelling outstation. The Petrol allowance claim rate is shown in the table below.

|  |  |
| --- | --- |
| **Kilometer** | **Rate** |
| First 10 Km | RM1.80 per km |
| Next 50 Km (from 11 to 60) | RM1.50 per km |
| Next 50 Km (from 61 to 110) | RM1.30 per km |
| Beyond 111 Km | RM1.00 per km |

If the total allowance is morethan RM150.00 than an additional bonus of 5% is added as their incentive amount. Write a java application program to read the name of the staff, the distance that has been travelled, and print out the total allowance that the staff received along with **ALL** the particulars.

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| Program (**20** pts) | **(Excellent)** | **(Good)** | **(Fair)** | **(Poor)** |
| Design of logic, testing, verification and validation, standards (interactive, user-friendliness) creative thinking | Program is logically well designed. Including validation (15-20) | Program has slight logic errors that do no significantly affect the results (10-14) | Program has significant logic errors (9-5) | Program is incorrect (0-4) |
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| Task done by |  | | | |
| Demonstrator name |  | | | |

**Task 4 (50%):**

Write a **C++ application** which performs the following scenarios:

1. Display an ***interactive design*** of a restaurant and welcome message screen when start running the program. [**5%]**
2. Prompt the user to enter a Customer name, IC/Passport, etc., **[5%]**
3. List of available book items as given below and prompt the user to select any **SEVEN (7)** choices:

**1-**Story Book, **2**-Documentary Book, **3**-Cookery Book, **4**-Magazine, **5**-Religious, **6**-Journals, **7**-Stop. **[5%]**

*Hint: you are required to include the price of the book as either integer or float type, which is your own choice.*

1. Display error message if the user enters choices other than 1 to 7. [**10%]**
2. For menu 2, and 5, there will be **NO** discount given, but for menu 1, 3, and 6, there will be a **5%** discount given, where by for menu 4, there will be a **10%** discount given.
3. Prompt the user to food’s selection (price must be fixed) and quantity of food purchased only if the user enters the valid choices. [**5%]**
4. Calculate the Overall price, discount, Sales Tax (2%), and final Total and display the receipt along with customer details. [receipt must be ***interactive*** and which contains ***all the details***]. **[10%]**
5. Required to provide all the necessary **verification** & **validation** wherever is required in task (ii) to task (vii). – [**10**%]

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| Program (**50** pts) | **(Excellent)** | **(Good)** | **(Fair)** | **(Poor)** |
| Design of logic, testing, verification and validation, Standards (interactive, user-friendliness) creative thinking | Program is logically well designed. Including validation (40-49) | Program has slight logic errors that do no significantly affect the results (39-30) | Program has significant logic errors (29-17) | Program is incorrect (0-16) |
|  |  |  |  |  |
| Task done by |  | | | |
| Demonstrator name |  | | | |

**Instructions to Students:**

During the execution of your program, the following criteria must be met:

* All classes must compile without any error & also program must not generate a runtime error.
* Must meet all assignment requirements. The assignment must produce accurate results. The program must accurately represent the sample output provided to you as a minimum requirement.
* Submit an assignment question (required to fill it up all the details such as student name, matric no) & **soft copy** of your work (which contains all tasks code, such as programs, all the possible output, etc.,) and send it to the given email.
* Submit your work to your instructor before or on published deadline & **ZERO (0)** marks for late compliance.
* Plagiarism (including copying from internet, book, or others works) is an academic dishonesty. Submit your work in original. **F** grade will be awarded for a plagiarized/copied work. Attach the safeassign report if required.
* ***Keep in mind -*** *Required to provide (upload in safeassign link) the* ***comments, variable usage, program logic, I/O statements, looping structure, more interactive and user friendly*** with **all the possible output screens** for **task 1- task 4**. You are required to provide a proper documentation (only one copy for group) and **Presentation** (Demonstration of the C++ Code and outputs)and **viva-voce.** If failed to present, your assignment work will become **NULL** and **VOID.**