FACULTY OF ENGINEERING AND INFORMATION SCIENCES

SUBJECT'S INFORMATION:			
Subject:	CSCI251 Advanced Programming		
Session:	July 2019		
Programme / Section:	Computer Science		
Lecturer:	Ms. Siti Hawa		
Coursework Type *(tick appropriate box)*	❑ Individual Assignment ❑ Group Assignment ❑ Project ✓ Lab Task ❑ Seminar / Tutorial Paper ❑ Others		
Coursework Title:	**Lab Task 1**	Coursework Percentage:	1%
ASSESSMENT CRITERIA:			
Correctness	All programs should produce the correct result as stated in the specification.		
Coding	Programs should be written only using sequencing structures involving declarations, input/output statements, and assignment statements.		
Readability	Appropriate comments are included. Meaningful identifiers used. Proper indentation and line spacing used.		
Well formatted output	Output should be well formatted with appropriate messages displayed. Numbers are shown with appropriate precision.		
SUBMISSION:			
All completed work should be submitted online through Moodle before or on the due date provided. **SUBMIT AS EARLY AS POSSIBLE. ONLY ONE SUBMISSION IS ALLOWED. IF RE-SUBMISSION IS NECESSARY, YOU ARE REQUIRED TO REMOVE THE EARLIER SUBMISSION AND THIS MUST BE DONE BEFORE THE DUE DATE. OTHERWISE YOU WILL BE PENALIZED FOR LATE SUBMISSON.**			
DUE DATE:	**WEEK 4**		
PENALTIES FOR LATE SUBMISSION:			
Penalties apply to all late work, except if student academic consideration has been granted. Late submissions will attract a penalty of 25% of the assessment mark per day including the weekend. Work more than (3) days late will be awarded a mark of zero.			
PLAGIARISM:			
When you submit an assessment task, you are declaring the following 1. It is your own work and you did not collaborate with or copy from others. 2. You have read and understand your responsibilities under the University of Wollongong's policy on plagiarism. 3. You have not plagiarised from published work (including the internet). Where you have used the work from others, you have referenced it in the text and provided a reference list at the end ot the assignment.			

COURSEWORK SPECIFICATION

OBJECTIVES:

Following completion of this task, students should be able to:

- Write C++ programs using standard I/O, basic control structures and functions.

Question 1 (Selection and Repetition Control Structures)

Write a C++ program that reads an integer value representing a year from the user. The purpose of the program is to determine if the year is a leap year (and therefore has 29 days in February) in the Gregorian calendar. A year is a leap year if it is divisible by 4, unless it is also divisible by 100 but not 400. For example, the year 2003 is not a leap year, but 2004 is. The year 1900 is not a leap year because it is divisible by 100, but the year 2000 is a leap year because even though it is divisible by 100, it is also divisible by 400. Produce an error message for any input value less than 1582 (the year the Gregorian calendar was adopted).

Continue to request for another input until the user enters zero (0) for the year.

Question 2 (Using Functions)

Write a C++ program that uses three functions to perform the following tasks:

– The first function should read the price of an item sold at a grocery store together with the quantity and discount rate given if any. All values entered should be validated accordingly. Return all the values to main().
– The second function is to calculate and return the total purchase price for the item.
– The last function should display the price, quantity, discount amount, and also the total purchase price.

The user should be given a choice to continue with another item. Before the program terminates, display also the grand total price of all the items purchased.