جامعة القاهرة الجديدة التكنولوجية NCT NEW CAIRO TECHNOLOGICAL UNIVERSITY

Sub.	Re-Sub

Assignment Brief Submission&Resub

LOs	LO1		LO2	
Grade " Sub"				
Grade "Resub"	P	Not Achieved " repeat unit"	P	Not Achieved " repeat unit"

Student Name:		**ID Number**	
Unit Number and Title:	ICT 121-Programming Essentials in C		
Qualification	Level 1 Higher National Diploma of Technology in Information and Communications Technology.		
Academic Year:	2022/2023	**Assessor Name**	**Dr. Ghada Maher**
Assignment Title	Data Representation and C programming fundamentals	**Internal Verifier Name**	**Dr. Amany**
Assignment No.	1	**Issue Date**	17/3/2023
Submission Format Type of Evidence	Document & observation sheet	**Submission Date**	20/3/2023

STUDENT DECLARATION

Plagiarism

Plagiarism is a particular form of cheating. Plagiarism must be avoided at all costs and students who break the rules, however innocently, may be penalised. It is your responsibility to ensure that you understand correct referencing practices. As a university level student, you are expected to use appropriate references throughout and keep carefully detailed notes of all your sources of materials for material you have used in your work, including any material downloaded from the Internet. Please consult the relevant unit lecturer or your course tutor if you need any further advice.

Student Declaration

Student declaration

I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.

Also, I acknowledge that I have received the feedback about my work from the assessor.

Student signature: **Date**: / /

FORMATIVE FEEDBACK	
Assessor's Formative Feedback:	**Confirm action completed:**
Assessor Signature:	**Date:**

IV assessment brief approval

IV's signature: Amany Abd El Samea **Date: 1/3/2023**

Learning Outcomes and Assessment Criteria:			
Learning Outcome	**Pass**	**Merit**	**Distinction**
Lo1 Understand foundation concepts of programming and information processing in computer systems.	P1 Discuss the main concept and the significant advantage of digitization P2 Describe the program development life cycle. P3 Write an Algorithm, Pseudocode , and flowchart of program.	M1 Explain how the digital data is represented. M2 Distinguish between the Syntax and Semantics.	D1 Compare among Assembler, Compiler, and Interpreter
Lo2 Applying the C programming fundamentals, flow control.	P4 Discover the logical and running errors of C programs P5 Define the applications that use the C programming and Identifiers. P6 Implement a simple C program that includes the basic scalar data types and operators. P7 Execute a C program that performs input, processing, and output by using the variables.	M3 Design a user-friendly program to display the output to the user in the right shape. M4 implement the C program that includes decision-making. M5 Implement the C program that includes iteration statements.	D2 Create a C program to solve a complex real-world problem that includes decision making, iteration statements.

Scenario

You are a candidate to work as a programmer in a software company using the C programming language. The manager of this company has assigned you the following tasks to test and evaluate candidates' knowledge of the basic principles and topics of C programming. This test is to identify the candidates who can deal with the problems using "software engineer thinking" to find the best solution possible.

Depending on this scenario answer the following tasks:

Task No.01

a) **Discuss** the main concept and the effectiveness of using digitization for the automatic fan system**.**

b) **Compare** among Assembler, Compiler, and Interpreter.

c) **Describe** Program Development Life Cycle.

d) **Distinguish** between the Syntax and Semantics.

e) **Explain** how this string "ICT" is represented as a digital data using ASCII code.

f) **Define** the applications that use the C programming and define the Identifiers in C programming language.

Task No.02

a) **Discover** the logical and running errors of the following tested program:

1	#include<stdio.h> files
	void main()
	{
	int x = 10;
	int y = 15;
	printf("%d", (x, y))

	void main()
	{
	int a=10;
	int c=a/0;
	}

	void Main()
	{
	printf("%d",sum(10,20));
	}
	int sum(int a, int b)
	{
	return x*y;
	}

b) **Implement** a simple C program that includes the following data:

X = 6 and Y= 60

print **Z**= $\sqrt{(XY)^2 + XY^2}$

c) **Design** Write a program to display the output as the following

```
*                *
**              **
***            ***
****          ****
*****        *****
******      ******
```

d) **Execute** the previous program but allow the user to enter X and Y

e) **Implement** C program to convert Fahrenheit to Celsius using 3 methods.

f) **Improve** the program in point (e) using 3 methods as the following

- The program is repeated for infinity.
- if the user wants to exit the program, he must enter 0.

g) **Write** an Algorithm, Pseudocode , and flowchart to convert Fahrenheit to Celsius several times.

Note: Sources of information that you can use in answering the task are:

- Class handouts and learning materials.
- Individual research.
- Lab PC (A209)

Higher Nationals - Summative Assignment Feedback Form

Student Name		**Student ID**	
Unit Title	Programming Essentials in C		
Assignment Number(1 of 2)	1	**Assignment Title**	Data Representation and C programming fundamentals

Assessor Summative Feedback: Feedback should be against the learning outcomes and assessment criteria to help students understand how these inform the process of judging the overall grade. *should be constructive and useful including:

- Feedback should give full guidance to the students on how they have met the learning outcomes and assessment criteria

a) Strengths of performance

b) Limitations of performance

c) Any improvements needed in future assessments

Assessor Signature:	**Date:** / /

Re-submission Date	/ /	**Actual Date Received Re-submission**	/ /

Resubmission Feedback:

*Please note resubmission feedback is focussed only on the resubmitted work

Assessor Signature:	**Date:** / /

Internal Verifier's Comments:

Signature:	**Date:** / /

* Please note that grade decisions are provisional. They are only confirmed once internal and external moderation has taken place and grades decisions have been agreed at the assessment board.