



SET 213 – Data Structures & Algorithms

Experiment # 1

Experiment Title

Getting familiar with Data Structure & Algorithms

Assessment of CLO(s): IV

Performed on 20-09-2024

Student Name			
Roll No.		Group	
Semester		Session	

Total (Max)	Criteria 1 (2.5)	Criteria 2 (2.5)	Criteria 3 (2.5)	Criteria 4 (2.5)	Total (10)
Marks Obtained					
Remarks (if any)					

Experiment evaluated by

Instructor's Name	Engr. Muhammad Asad Husain		
Date		Signature	

Department of Engineering Technology
(UIT University)

Course Code: SET213 Course Title: Data Structures & Algorithms Course Credits: 2+1 Session: Fall 2024

Rubric for assessment criteria to perform experiment number 1.

Level Criteria	UNSATISFACTORY 1	COMPETENT 2	PROFICIENT 3	DISTINGUISHED 4
Capability of writing algorithm/ Procedure	None of the steps are implemented of an algorithm.	Few steps are implemented correctly of an algorithm.	Most of the steps are implemented correctly of an algorithm.	All the steps are implemented correctly of an algorithm.
Capability of writing Program	Programs not completed.	Completeness of code, consistent variable naming and unformatted.	Completeness of code, inconsistent variable naming and well formatted.	Completeness of code, consistent variable naming and well formatted.
Completion of target in Lab	25% target has been completed	50% target has been completed	75% target has been completed	100% target has been completed
Output	None of the outputs are correct.	Few outputs have been found correctly.	Some of the outputs are correct and well formatted.	Most of the outputs are correct and well formatted.

Practical Objective(s):

1. Understand the concept of Data Structures.
2. Understand the concept of Algorithms.
3. How to develop logic from pseudo code.
4. Coding of Algorithm using C++.

Task(s):

1. Write an algorithm and a C++ program to calculate factorial of a given number.
2. Write an algorithm and C++ program that takes two parameters as input and return the swap of the two input values.
3. Write an algorithm and C++ program to find the size of Data Types (integer, float, character).
4. Write an algorithm and C++ program to convert the Celsius Value to Fahrenheit.

Question(s):**Answer True or False for these statements:**

1. Array is a data structure operation. _____ (True/False)
2. Stacks, queue and trees are types of data structures. _____ (True/False)
3. An algorithm written for C++ will be completely different than the one for any other language. _____ (True/False)
4. Traversing means visiting each element of a data structure in order to perform a certain operation. _____ (True/False)
5. Choice of a data structure for a particular scenario depends on the nature of data. (True/False)