Newports Institute of Communications and Economics

Project		
Course Title: Programming Fundamentals		
Instructor Name: Mustafa Ali Bamboat	**Marks: 10**	**Date: 28-DEC-2024**

- **(CLO_3): (Cognitive Level C3 i.e. Apply (PLO_3 i.e. Design and Development of Solutions)**
- **(CLO_4): (Cognitive Level C4 i.e. Create (PLO_5 i.e. Modern Tool Usage)**

Objective:
To design and implement a functional application that demonstrates the core principles of programming, including variable usage, control structures (e.g., loops and conditional statements), functions, and data structures. The project aims to provide students with hands-on experience in applying programming techniques to solve real-world problems, fostering critical thinking and analytical skills.

Important Instructions:

1. You are required to pick any one idea from the given list or you may come up with your own idea but verify your idea with the instructor then start working on it.
2. You may make a group of two students or you may do the project individually.
3. **File Submission Guidelines**:
   - You are required to submit the solutions for in a single ZIP file.
   - A Google Form link will be provided on the WhatsApp group for uploading the ZIP file. Ensure that you upload **only one ZIP file** containing the following:
     - Project Report in Word or PDF format.
     - All project files (.cpp).
   - Create a folder named `P_<RollNumber>` (e.g., `P_1243_1111`) and copy the files into this folder.
   - Compress (ZIP) the folder and upload the ZIP file via the provided Google Form.

4. **Academic Integrity**:

   - Plagiarism is strictly prohibited. Your solutions will be checked using plagiarism detection tools.
   - Any form of copying or sharing solutions will result in negative marking for all parties involved.

5. **Deadline**:

   - Late submissions will not be accepted under any circumstances. Ensure that you upload your solution on time.

Project Ideas:

Ideal#1:

Quiz Application

Features:

- Display a series of questions with multiple-choice answers.
- Track the user's score.
- Show correct answers at the end.

Hint: Switch-case, loops, arrays.

Ideal#2:

To-Do List Manager

Features:

- Add, view, and delete tasks.
- Mark tasks as completed.

Hint: Arrays, loops, and basic file handling.

Ideal#3:

Expense Tracker

Features:

- Input daily expenses.
- Categorize expenses (e.g., Food, Transport, Misc).
- Show a summary of total expenses for the week/month.

Hint: Arrays, functions, and loops.

Ideal#4:

Tic-Tac-Toe Game

Features:

- Two-player game.
- Check for a winner or a tie.
- Display the game board after every move.

Hint: 2D arrays, loops, conditionals

Ideal#5:

Calendar Application

Features:

- Display a calendar for a given month and year.
- Highlight weekends and holidays.

Hint: Loops, arrays, date algorithms.

Ideal#6:

Calendar Application

Features:

- Display a calendar for a given month and year.
- Highlight weekends and holidays.

Hint: Loops, arrays, date algorithms.

Ideal#7:

Periodic Table Quiz

Features:

- Ask Multiple Types of Questions e.g. What is the symbol for the element with atomic number 10? Or What is the name of the element with symbol 'O'? or What is the atomic number of the element 'Carbon'?.
- Track correct and incorrect answers.
- Show the total score at the end of the quiz.
- Display the percentage of correct answers.
- Randomly pick questions from a list of elements
- Make the quiz unpredictable by choosing different types of questions each time

Hint: Arrays, `rand()` function, loop, conditional statements.