UNIVERSITY OF THE PUNJAB
Session: BS (SE) Fall 2021 Morning
Course: Web Technologies
Lab 01, Time Duration: 1.5hr, Total Marks: 22

Lab Contents:

Introduction to C#, Basic class creation, Class properties, Object initializer syntax, Params keyword, ToString override, Base Object Class, Byte oriented streams, Character oriented streams

Objective:

To reinforce understanding of fundamental C# concepts, including basic class creation, properties, object initializer syntax, params keyword, ToString override, and byte/character-oriented streams.

Happy Learning!

Class Definition (4 points):

Create a class named **Person** with the following properties:

- Name (string)
- Age (int)
- Email (string)

Object Initialization (3 points):

Create an object of the Person class using object initializer syntax.
Initialize the properties with values for a person.

Params Keyword (3 points):

Implement a method in the Person class named **AddEmails** that utilizes the **params** keyword. This method should allow adding multiple email addresses to the Email property of the person. A person can have multiple emails, so change the data-type of Email Property from string to List<string>

ToString Override (2 points):

Override the ToString method in the Person class to provide a custom string representation. The string representation should include the person's name, age, and a list of email addresses.

File Handling (8 points):

Implement a method in the Person class named **SaveToFile** that takes a file path as a parameter. Use byte-oriented streams (e.g., BinaryWriter and FileStream) to save the person's information to a file. Include the person's name, age, and email addresses.

Readability and Documentation (2 points):

A well organized and documented code is a blessing for software!

- ★ So ensure your code is well-commented and follows C# coding conventions.
- ★ Use meaningful variable and method names for better readability.
- ★ Use **PascalCase** for both Method names and Property names.

Learning Resources:

To learn more about the lab contents, you can refer to following official documentations:

- File and Stream I/O
- Common I/O Tasks
- Learn about Method Parameters
- Properties, getters, and setters
- How to initialize objects by using an object initializer
- How to override the ToString method
- Base Object Class
- Introduction to C# - Microsoft Learn
- A tour of the C# language
- C# naming conventions for better readability and code maintainability

"Dear students. Always remember, understanding the problem is actually part of solving the problem!"