**Lab Exercise**

**Objective:**

* To evaluate the understanding of Equal(), logical equal, GetHashCode(), IEnumerable, IEnumerator, yield keyword, extension methods, and basic LINQ operations.

**Instructions:**

1. Create a new Console Application project.
2. Implement the following tasks in separate classes/files as appropriate.

**Task 1: Equal() vs Logical Equal**

* Create a class Person with properties Name and Age.
* Override the Equals() method to compare Person objects based on Name and Age.
* Create a method to compare two Person objects using both Equals() and logical equality (==).
* Test the method with different Person objects to demonstrate the difference.

**Task 2: GetHashCode()**

* Implement the GetHashCode() method in the Person class.
* Create a list of Person objects and print their hash codes.

**Task 3: IEnumerable and IEnumerator**

* Create a class CustomCollection that implements IEnumerable<int>.
* Implement the GetEnumerator method to iterate over a collection of integers.
* Demonstrate usage by iterating over an instance of CustomCollection using foreach.

**Task 4: yield keyword**

* Modify the CustomCollection class to use the yield keyword in the GetEnumerator method.

**Task 5: Extension Method**

* Create a static class StringExtensions with an extension method IsNullOrEmpty() for the string type.
* Demonstrate usage of this method with different string values.

**Task 6: LINQ Operations**

* Create a list of Person objects.
* Perform the following LINQ operations and print the results:
  + Select: Select only the Name property.
  + Where: Filter persons older than 20.
  + OfType: Filter items of type Person.
  + OrderBy and OrderByDescending: Order the list by Name.
  + ThenBy and ThenByDescending: Order by Name and then by Age.
  + Reverse: Reverse the list.