**Part 1**

**Goal:** Write basic C# programs with confidence

* +Fundamentals of programming in C# and .NET Framework
* +All about primitive and reference types
* +Operators (arithmetic, comparison, logical, bitwise, etc.)
* +Conditional statements (if/else, switch/case)
* +Loops (for, foreach, while, do-white)
* +Arrays, List, Multidimensional arrays
* +Working with text
* +Working with files and directories
* Debugging C# applications
* +Implementing some sorting algorithms
* Solve some logic problems
* +Reflection

**Part 2**

**GOAL:** Write object-oriented C# code with confidence, Write clean, maintainable code

* +Working with classes, constructors, fields, properties, methods and indexers
* +Interfaces
* Inheritance, when should we inherit and when not?
* Abstraction
* How to use encapsulation to reduce the impact of changes
* Dynamic and static polymorphism
* How to develop loosely-coupled, extensible and testable applications using interfaces
* DRY
* SOLID principles
* Layering

**Part 3**

Goal: Get ready to build web, desktop apps with C#

* Garbage collector
* Exception Handling
* Dispose / Finalize
* Generics
* Delegates
* Attributes/Custom Attributes
* Events
* Lambda Expressions
* Extensions Methods
* LINQ
* Nullable Types
* Dynamics
* +Implementation of IEnumerable interface
* Asynchronous Programming with Async / Await

**Part 4:**

1. Operation System.
2. Html/ CSS
3. WEB Request/Response
4. MVC pattern

**Part 5 Data Structures**

Goal: To be familiar with basic data structures and be able work with them

* [Array](https://www.geeksforgeeks.org/array/)
* [Linked List](https://www.geeksforgeeks.org/data-structures/linked-list/)
* Double Linked List
* [Stack](https://www.geeksforgeeks.org/stack/)
* [Queue](https://www.geeksforgeeks.org/queue/)
* [Binary Tree](https://www.geeksforgeeks.org/binary-tree-2/)
* [Binary Search Tree](https://www.geeksforgeeks.org/binary-search-tree/)

**Part 6. SQL Basics and Entity framework**

* Creating tables
* SQL Select. JOINS
* SQL Procedures
* Primary/Foreign key
* Indexes/ Clustered and Non clustered
* Normalization Forms
* Entity Framework