

Week 1 Programming Assignment: Patient Visit Manager

Course Module: Week 1

Assignment Title: Patient Visit Manager Console Application

Objective

Design and implement a console-based C# application that simulates a basic clinic patient visit management system. The application should support adding, updating, deleting, and searching patient visit records with persistent data storage and basic reporting capabilities.

Project Scope & Description

The Patient Visit Manager allows users to manage clinic visits through the console. Students will build core functionality that covers:

- Managing patient visit records (add/update/delete/search)
- Storing records in a file (CSV/text-based)
- Supporting different types of visits (e.g., Consultation, Follow-up, Emergency)
- Generating reports and statistics
- Simulating user notifications
- Enabling undo/redo of operations

Technical Requirements

1. Core Functionalities

- Add new patient visit record
- Update existing patient visit information
- Delete patient visit record
- Search visits by patient name, doctor name, date, or type

2. Visit Management

- Categorize by visit type
- Each visit includes:
 - Patient Name
 - Visit Date
 - Visit Type
 - Description/Notes
 - Doctor Name (optional)

3. File-Based Data Storage

- Use .csv or .txt files
- Save data between runs
- Handle file I/O exceptions gracefully

4. Reporting Features

- Individual visit summaries
- Total visit count per type
- Weekly visit summary

5. System Features

- Simulated notification system (e.g., "Visit added!")
- Undo/Redo Functionality:
 - Maintain a command history for Add, Update, and Delete actions
 - Support undoing the last 10 actions
 - Allow redoing undone actions if no new action has replaced them
 - Use appropriate data structures (e.g., stacks) to manage history
- Generate 300–500 mock entries for testing/reporting

Learning Objectives

- Practice C# syntax
- Apply OOP principles
- Work with file I/O
- Use collections (List, Dictionary)
- Implement structured logic
- Include error handling and validation

Deliverables

- Console Application

Submission Guidelines

- Upload to Azure DevOps Repository
- Branch Name: patient-visit-manager
- Submission Date: 31st July, 2025 (Day End)
- Please use **.gitignore** file to exclude unnecessary file from getting uploaded in the repo
- Late submission policy applies