



Mini Bank System – Project Overview

This project is an application of the following topics covered in programming fundamentals chapter:

- 1- Datatypes
 - 2- Variables & constants
 - 3- input/output
 - 4- operators (mathematical and logical)
 - 5- loops & nested loops
 - 6- conditions
 - 7- switch case
 - 8- functions (built-in & user-defined)
 - 9- Collections (Array, list, stack, queue)
 - 10- file management
 - 11- error types and error handling
 - 12- Comments and naming considerations
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Project Goal

Develop a console-based **Mini Bank System** in C# that allows users to:

- Create accounts
 - Deposit/withdraw money
 - View balances
 - View transaction history
 - Save/load data using file management
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Features & How Each Topic is Applied

1. Datatypes / Variables & Constants

- Use appropriate data types (int, double, string, bool, DateTime)
 - Define constants for things like **minimum balance**, **bank name**, etc.
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2. Input / Output

- Use Console.ReadLine() for user inputs and Console.WriteLine() for displaying outputs.
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3. Operators

- Mathematical: Deposit and withdraw calculations.
- Logical: Validations like "Is balance sufficient?" or "Is account active?"

4. Conditions & Switch Case

- if/else for business rules: (e.g., insufficient funds)
 - switch for menu selections:
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5. Loops & Nested Loops

- Use a main loop to keep the menu running until the user exits.
 - Nested loops inside account creation to validate unique account number, etc.
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6. Functions

- Modularize the system using functions like:

```
void CreateAccount() { }
```

```
void Deposit() { }
```

```
void Withdraw() { }
```

7. Collections

- Use:
 - List<Account> to store accounts
 - Queue<string> for account opening requests
 - Stack<string> for recent reviews
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8. File Management

- Save and load accounts from a text file
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9. Errors and Error Handling

- Use try-catch blocks for:
 - Input parsing
 - File I/O
 - Invalid operations
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10. Comments and Naming Considerations

- Use meaningful names and Comment all major sections and logic explanations.