**Project Proposal: ATM Simulator in C – Project Report**

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**Course**: C Programming

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**1.Introduction**

This project is based on an ATM simulation with the use of C programming language.

A user works with a virtual bank account in the system that has a command-line menu.

Supported operations include balance check, deposit and withdrawal of funds.

**2. Objective**

To develop a simple, menu-driven ATM simulator in C that performs the following operations:

* Check account balance
* Deposit money
* Withdraw money
* Exit the application

**3. Tools and Technologies Used**

* Programming Language: C
* Compiler: GCC (GNU Compiler Collection)
* Development Environment: Any C IDE or terminal-based compilation

**4** **Program Structure**

The ATM simulator is structured using a C struct to represent a bank account.  
It also uses modular functions to separate logic for each operation.

**4.1. Structure Definition**

A structure named Bank Account is defined to represent a bank account:

c

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struct Bank Account {

int account Number;

char holder Name [50];

float balance;

};

**4.2 Functions Used**

* show Menu () – Displays the options to the user.
* check Balance () – Prints account details and current balance.
* deposit () – Adds money to the account balance.
* withdraw () – Deducts money from the account if sufficient balance is available.

**4.3 Main Function**

Initializes a sample account with fixed values.  
Displays the menu in a loop and takes user input for operations.  
Uses a switch statement to call appropriate functions based on the user’s choice.

**5. Sample Output**

ATM Simulator

1. Check Balance

2. Deposit Money

3. Withdraw Money

4. Exit

Enter your choice: 1

Account Holder: AA8

Account Number: 9840254735

Current Balance: Rs. 1000000.00

**6. Features**

* Validates deposit and withdrawal amounts
* Checks for sufficient funds before withdrawal
* Uses pointers for updating balance directly
* Infinite loop with an option to exit

**7. Limitations**

* Only one user account is hardcoded
* No security (e.g., PIN verification)
* Data is not stored persistently
* Basic input validation only

**8. Suggestions for Improvement**

* Implement multiple account handling
* Add user authentication via PIN
* Include transaction history
* Enhance UI formatting
* Use file I/O for data storage

**Conclusion**

This ATM Simulator project effectively demonstrates basic banking transactions in C using structures and functions. It serves as a strong foundational exercise in procedural programming, structure manipulation, and menu-based input handling.