

# CSE 102 Spring 2025 – Computer Programming Assignment 3

**Due on March 26, 2025 at 23:59**

Write a C program to implement a Virtual ATM Simulator for basic banking transactions, such as checking their balance, depositing money, and withdrawing money. The simulation follows these constraints:

- **Only scalar variables** (no arrays, structs, or pointers)
- **Conditional statements** (if, else, and switch)
- **File I/O** to store and update the balance of the bank account
- **No loops**
- **Functions** for each bank transaction
- **Only standard libraries** (stdio.h for input/output, stdlib.h for file handling)

The ATM system has the following features:

1. **Check balance** – Display the current balance.
2. **Deposit money** – Add money to the account.
3. **Withdraw money** – Subtract money from the account (if sufficient funds are available).
4. **Exit the program** – Ends the session.

Each transaction updates the account balance, which is stored in a file (account.txt). The balance remains saved between program executions. Your program must define and use the following functions:

- `double get_balance();` //Reads balance from file
- `void update_balance(double new_balance);` //Updates balance in the file
- `void check_balance();` //Displays current balance
- `void deposit_money();` //Allows user to deposit money
- `void withdraw_money();` //Allows user to withdraw money
- `void menu();` //Displays the ATM Menu

**ATM checks:**

1. The user cannot withdraw more money than the account balance.
2. The user cannot withdraw or deposit a negative amount of money.

## Example Program Execution

### Displaying Menu

----- Virtual ATM -----

1. Check Balance
2. Deposit Money
3. Withdraw Money
4. Exit

### Checking Balance

Choose an option: 1

Current balance: 100.00 TRY

### Depositing Money

Choose an option: 2

Enter amount to deposit: 50

Deposit successful! New balance: 150.00 TRY (Saved account.txt)

### Withdrawing Money

Choose an option: 3

Enter amount to withdraw: 30

Withdraw successful! New balance: 120.00 TRY (Saved account.txt)

### Attempting to Overdraw

Choose an option: 3

Enter amount to withdraw: 200

Insufficient funds! Your balance is only 120.00 TRY.

**Requirements:**

- Reads from account.txt if it exists.
- If the file doesn't exist, it creates a new account with an initial balance of \$100.00.
- Updates the account balance after each transaction if needed.

**Grading (100 Points)**

- Using functions correctly (50 pts)
- Handling file I/O properly (30 pts)
- Proper menu interaction (10 pts)
- Following constraints (10 pts)

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**IMPORTANT NOTES:**

- Submit your homework as a zip file named as your name\_surname id (name\_surname.zip) and this file should include:
  - name\_surname.c file
- name\_surname.pdf file which includes, screenshots of your generated outputs and given C code as an input.
- Programs with compilation errors will get 0.
- The output format must be as given, do not change it.
- Compile your work with given command “gcc --ansi your\_program.c -o your\_program”.
- Your work will be evaluated using gcc version 11.4.0.
- For any questions and problems, you can always contact with me **via e-mail** ([gizemsungu@gtu.edu.tr](mailto:gizemsungu@gtu.edu.tr)) or you can find me in Room 234 in scheduled office hours in March 12 and March 19, 2025 between 13:30 – 14:30.