

PROGRAM: Midterm -

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Description: The program shows a series of menus for user login (file I/O), banking operations, and item purchases, including a search feature for items by ID.

Welcome menu- ("sign in" = reads from username.txt file)

```
○ (base) → midterm git:(main) x ./main
Welcome to the Bank account Simulation!
You can sign in, view your balance, make purchase from online store, search online store

=== Welcome to Bank Account Simulation ===
Choose an option:
1. Sign In
2. Create New Username
3. Exit
Enter choice: █
```

If no username.txt file exists, the program does not move on. Prompts to create username.txt

```
○ (base) → midterm git:(main) x ./main
Welcome to the Bank account Simulation!
You can sign in, view your balance, make purchase from online store, search online store

=== Welcome to Bank Account Simulation ===
Choose an option:
1. Sign In
2. Create New Username
3. Exit
Enter choice: 1
Attempting to sign in...
No user found. Please create a new user first.
Please create a new user account to continue.

=== Welcome to Bank Account Simulation ===
Choose an option:
1. Sign In
2. Create New Username
3. Exit
Enter choice: █
```

Creating a username creates txt file and allows sign in.

```
=== Welcome to Bank Account Simulation ===  
Choose an option:  
1. Sign In  
2. Create New Username  
3. Exit  
Enter choice: 2  
Creating new user...  
Enter your Username: libarra  
Enter initial deposit: $100  
User saved to file.  
  
=== Welcome to Bank Account Simulation ===  
Choose an option:  
1. Sign In  
2. Create New Username  
3. Exit  
Enter choice: █
```

```
=== Welcome to Bank Account Simulation ===  
Choose an option:  
1. Sign In  
2. Create New Username  
3. Exit  
Enter choice: 1  
Attempting to sign in...  
User data: 1001,libarra,100  
User signed in successfully!  
  
=== Banking Menu ===  
1. Deposit Money  
2. View Balance  
3. Make Purchase  
4. View Transaction Log  
5. Logout  
Enter choice: █
```

Deposit money updates the balance and creates transactions.txt file

```
=== Banking Menu ===
1. Deposit Money
2. View Balance
3. Make Purchase
4. View Transaction Log
5. Logout
Enter choice: 1
Enter deposit amount: $100
Deposited $100. New balance: $200
```

```
=== Banking Menu ===
1. Deposit Money
2. View Balance
3. Make Purchase
4. View Transaction Log
5. Logout
Enter choice: █
```

Can make purchases from directly from menu.

```
=== Banking Menu ===
1. Deposit Money
2. View Balance
3. Make Purchase
4. View Transaction Log
5. Logout
Enter choice: 3

=== Purchase Menu ===
1. iPhone (ID: 101) - $25
2. Computer (ID: 102) - $35
3. Scooter (ID: 103) - $39
4. Tablet (ID: 104) - $29
5. Headphones (ID: 105) - $15
6. Search by ID
7. Go back
Enter choice: █
```

Purchases from menu are deducted from balance.

```
=== Purchase Menu ===
1. iPhone (ID: 101) - $25
2. Computer (ID: 102) - $35
3. Scooter (ID: 103) - $39
4. Tablet (ID: 104) - $29
5. Headphones (ID: 105) - $15
6. Search by ID
7. Go back
Enter choice: 1
Purchased iPhone for $25. New balance: $175

=== Purchase Menu ===
1. iPhone (ID: 101) - $25
2. Computer (ID: 102) - $35
3. Scooter (ID: 103) - $39
4. Tablet (ID: 104) - $29
5. Headphones (ID: 105) - $15
6. Search by ID
7. Go back
Enter choice: █
```

Items can be searched using id through binary search.

```
=== Purchase Menu ===
1. iPhone (ID: 101) - $25
2. Computer (ID: 102) - $35
3. Scooter (ID: 103) - $39
4. Tablet (ID: 104) - $29
5. Headphones (ID: 105) - $15
6. Search by ID
7. Go back
Enter choice: 6
Search for item by ID: 104
Item found: ID=104, Name=Tablet, Price=$29
Would you like to purchase this item? (y/n): █
```

```
Search for item by ID: 104
Item found: ID=104, Name=Tablet, Price=$29
Would you like to purchase this item? (y/n): y
Purchased Tablet for $29. New balance: $146
```

```
=== Purchase Menu ===
1. iPhone (ID: 101) - $25
2. Computer (ID: 102) - $35
3. Scooter (ID: 103) - $39
4. Tablet (ID: 104) - $29
5. Headphones (ID: 105) - $15
6. Search by ID
7. Go back
Enter choice: █
```

Transaction log can be seen in CLI. Also transactions.txt is updated with every purchase and balance check.

```
=== Banking Menu ===
1. Deposit Money
2. View Balance
3. Make Purchase
4. View Transaction Log
5. Logout
Enter choice: 4
```

```
=== Transaction Log ===
Initial Deposit: $100
Balance: $100
Balance: $200
Deposit: $100
Balance: $175
Purchase - iPhone: $25
Balance: $146
Purchase - Tablet: $29
=====
```

```
=== Banking Menu ===
1. Deposit Money
2. View Balance
3. Make Purchase
4. View Transaction Log
5. Logout
Enter choice: █
```

The two files created:

```
midterm > ≡ transactions.txt
You, 35 seconds ago | 1 author (You)
1 Initial Deposit: $100
2 Balance: $100
3 Balance: $200
4 Deposit: $100
5 Balance: $175
6 Purchase -- iPhone: $25
7 Balance: $146
8 Purchase -- Tablet: $29
9
```

```
midterm > ≡ username.txt
1 1001,libarra,100
2
```