AI Assisted Coding

Assignment-6.5

Name: Thanay Nalumasa

Ht.no:2303A51424

Bt.no:21

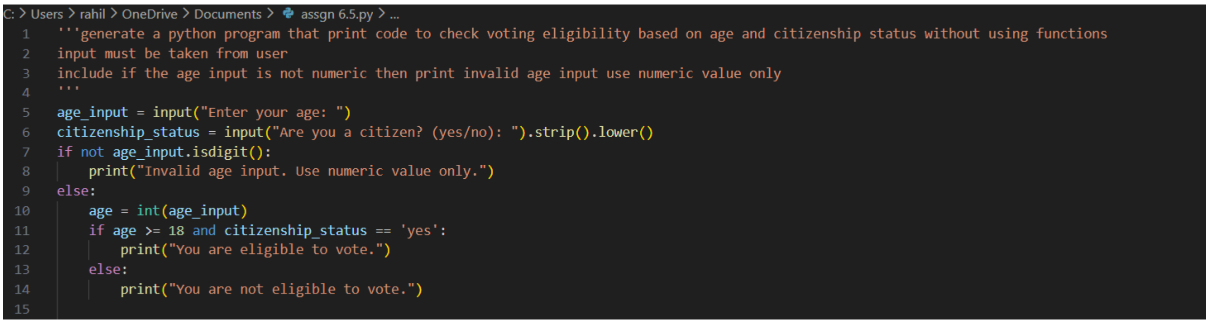
Task Description #1

(AI-Based Code Completion for Conditional Eligibility Check)

Task: Use an AI tool to generate eligibility logic.

Prompt: “Generate Python code to check voting eligibility based on age and citizenship.”

Code:

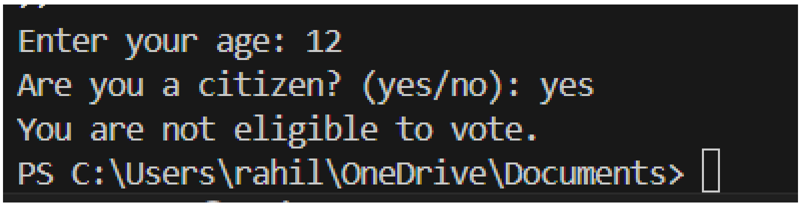


C: > Users > rahil > OneDrive > Documents > assgn 6.5.py > ...

```python
'''generate a python program that print code to check voting eligibility based on age and citizenship status without using functions
input must be taken from user
include if the age input is not numeric then print invalid age input use numeric value only
'''
age_input = input("Enter your age: ")
citizenship_status = input("Are you a citizen? (yes/no): ").strip().lower()
if not age_input.isdigit():
    print("Invalid age input. Use numeric value only.")
else:
    age = int(age_input)
    if age >= 18 and citizenship_status == 'yes':
        print("You are eligible to vote.")
    else:
        print("You are not eligible to vote.")

```

Output:



```
Enter your age: 12
Are you a citizen? (yes/no): yes
You are not eligible to vote.
PS C:\Users\rahil\OneDrive\Documents>
```

Task Description #2

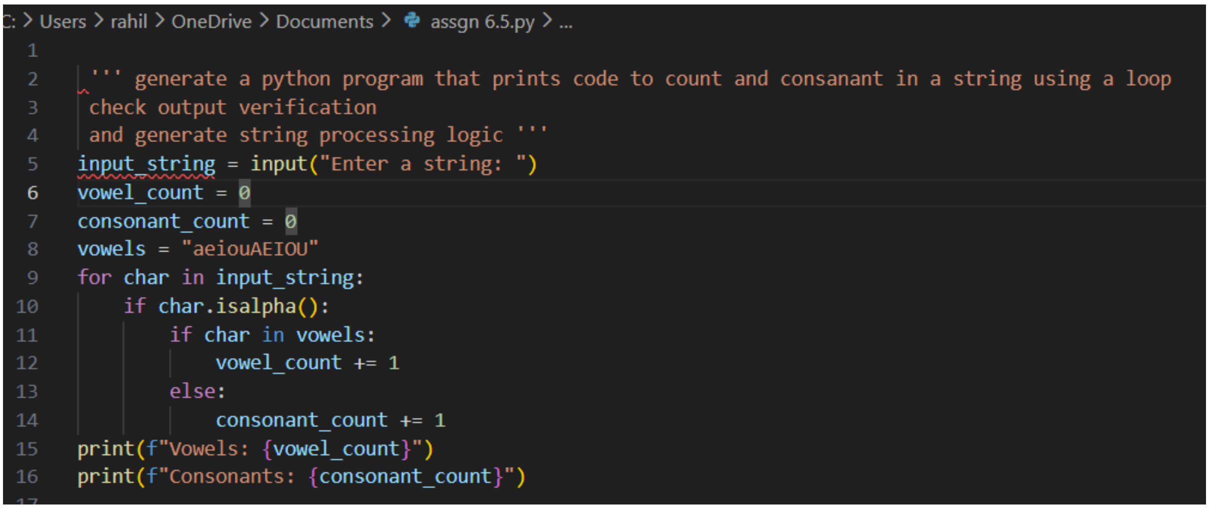
(AI-Based Code Completion for Loop-Based String Processing)

Task: Use an AI tool to process strings using loops.

Prompt:

“Generate Python code to count vowels and consonants in a string using a loop.”

Code:

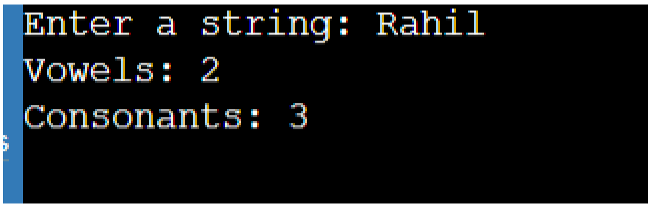


C: > Users > rahil > OneDrive > Documents > assgn 6.5.py > ...

```python

 ''' generate a python program that prints code to count and consanant in a string using a loop
 check output verification
 and generate string processing logic '''
input_string = input("Enter a string: ")
vowel_count = 0
consonant_count = 0
vowels = "aeiouAEIOU"
for char in input_string:
    if char.isalpha():
        if char in vowels:
            vowel_count += 1
        else:
            consonant_count += 1
print(f"Vowels: {vowel_count}")
print(f"Consonants: {consonant_count}")
```

Output:



```
Enter a string: Rahil
Vowels: 2
Consonants: 3
```

Task Description #3

(AI-Assisted Code Completion Reflection Task)

Task: Use an AI tool to generate a complete program using classes, loops, and conditionals.

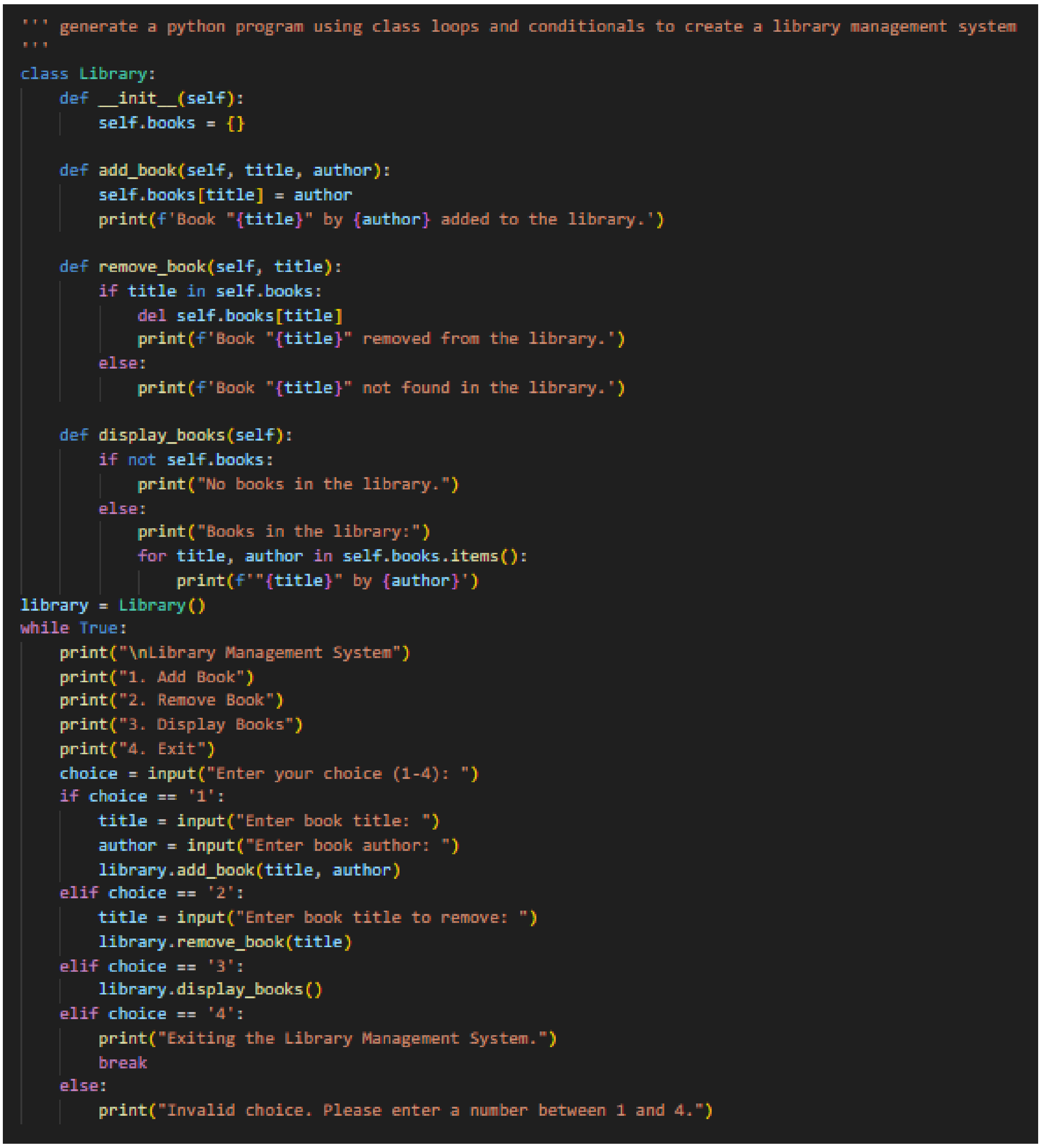
Prompt:

“Generate a Python program for a library management system using classes, loops, and conditional statements.”

Expected Output:

- Complete AI-generated program.
- Review of AI suggestions quality.
- Short reflection on AI-assisted coding experience.

Code:

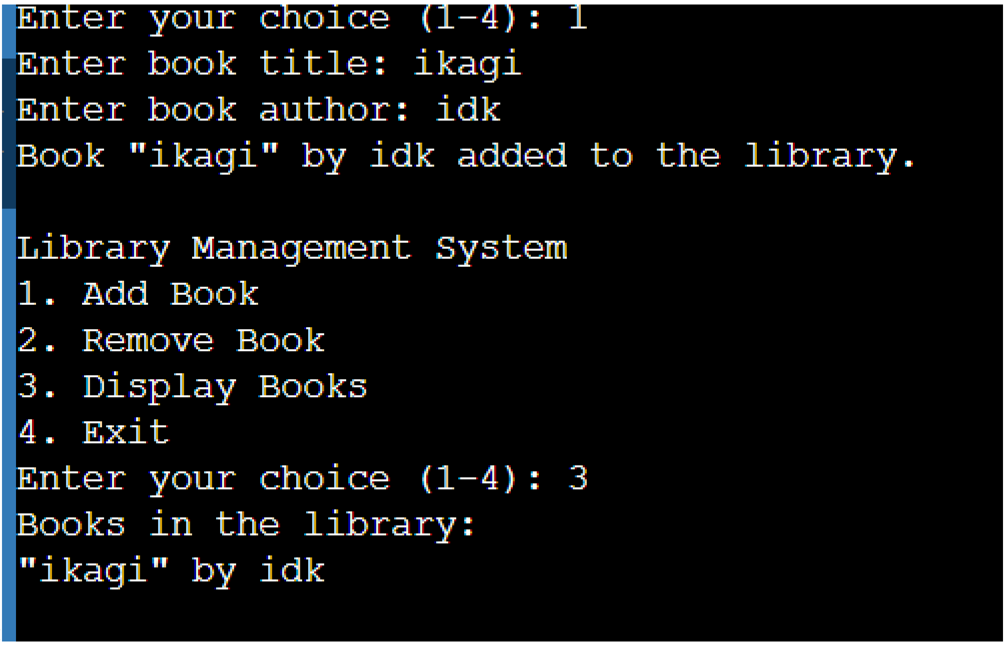


```python
''' generate a python program using class loops and conditionals to create a library management system
'''
class Library:
    def __init__(self):
        self.books = {}

    def add_book(self, title, author):
        self.books[title] = author
        print(f'Book "{title}" by {author} added to the library.')

    def remove_book(self, title):
        if title in self.books:
            del self.books[title]
            print(f'Book "{title}" removed from the library.')
        else:
            print(f'Book "{title}" not found in the library.')

    def display_books(self):
        if not self.books:
            print("No books in the library.")
        else:
            print("Books in the library:")
            for title, author in self.books.items():
                print(f'"{title}" by {author}')
library = Library()
while True:
    print("\nLibrary Management System")
    print("1. Add Book")
    print("2. Remove Book")
    print("3. Display Books")
    print("4. Exit")
    choice = input("Enter your choice (1-4): ")
    if choice == '1':
        title = input("Enter book title: ")
        author = input("Enter book author: ")
        library.add_book(title, author)
    elif choice == '2':
        title = input("Enter book title to remove: ")
        library.remove_book(title)
    elif choice == '3':
        library.display_books()
    elif choice == '4':
        print("Exiting the Library Management System.")
        break
    else:
        print("Invalid choice. Please enter a number between 1 and 4.")
```

Output: 

```
Enter your choice (1-4): 1
Enter book title: ikagi
Enter book author: idk
Book "ikagi" by idk added to the library.

Library Management System
1. Add Book
2. Remove Book
3. Display Books
4. Exit
Enter your choice (1-4): 3
Books in the library:
"ikagi" by idk
```

Task Description #4

(AI-Assisted Code Completion for Class-Based Attendance System)

Task: Use an AI tool to generate an attendance management class.

Prompt: “Generate a Python class to mark and display student

attendance using loops.”

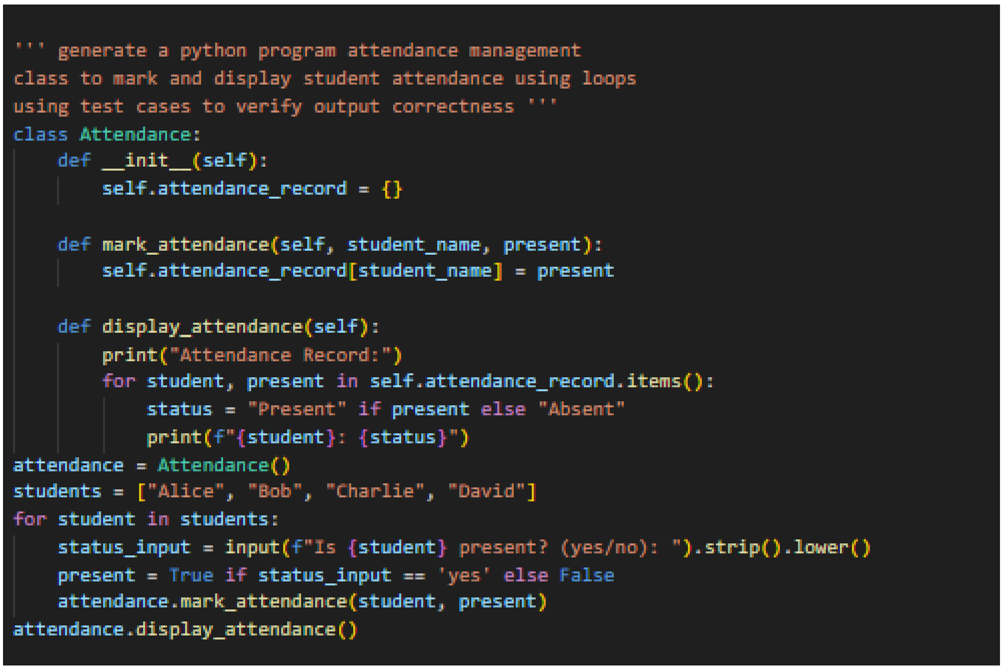
Expected Output:

• AI-generated attendance logic.

• Correct display of attendance.

• Test cases.

Code:

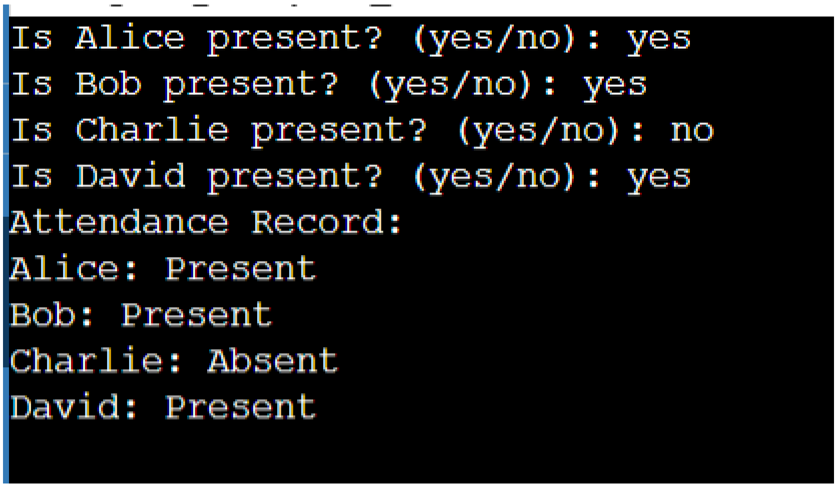


```python
''' generate a python program attendance management
class to mark and display student attendance using loops
using test cases to verify output correctness '''
class Attendance:
    def __init__(self):
        self.attendance_record = {}

    def mark_attendance(self, student_name, present):
        self.attendance_record[student_name] = present

    def display_attendance(self):
        print("Attendance Record:")
        for student, present in self.attendance_record.items():
            status = "Present" if present else "Absent"
            print(f"{student}: {status}")
attendance = Attendance()
students = ["Alice", "Bob", "Charlie", "David"]
for student in students:
    status_input = input(f"Is {student} present? (yes/no): ").strip().lower()
    present = True if status_input == 'yes' else False
    attendance.mark_attendance(student, present)
attendance.display_attendance()
```

Output:



```
Is Alice present? (yes/no): yes
Is Bob present? (yes/no): yes
Is Charlie present? (yes/no): no
Is David present? (yes/no): yes
Attendance Record:
Alice: Present
Bob: Present
Charlie: Absent
David: Present
```

Task Description #5

(AI-Based Code Completion for Conditional Menu Navigation)

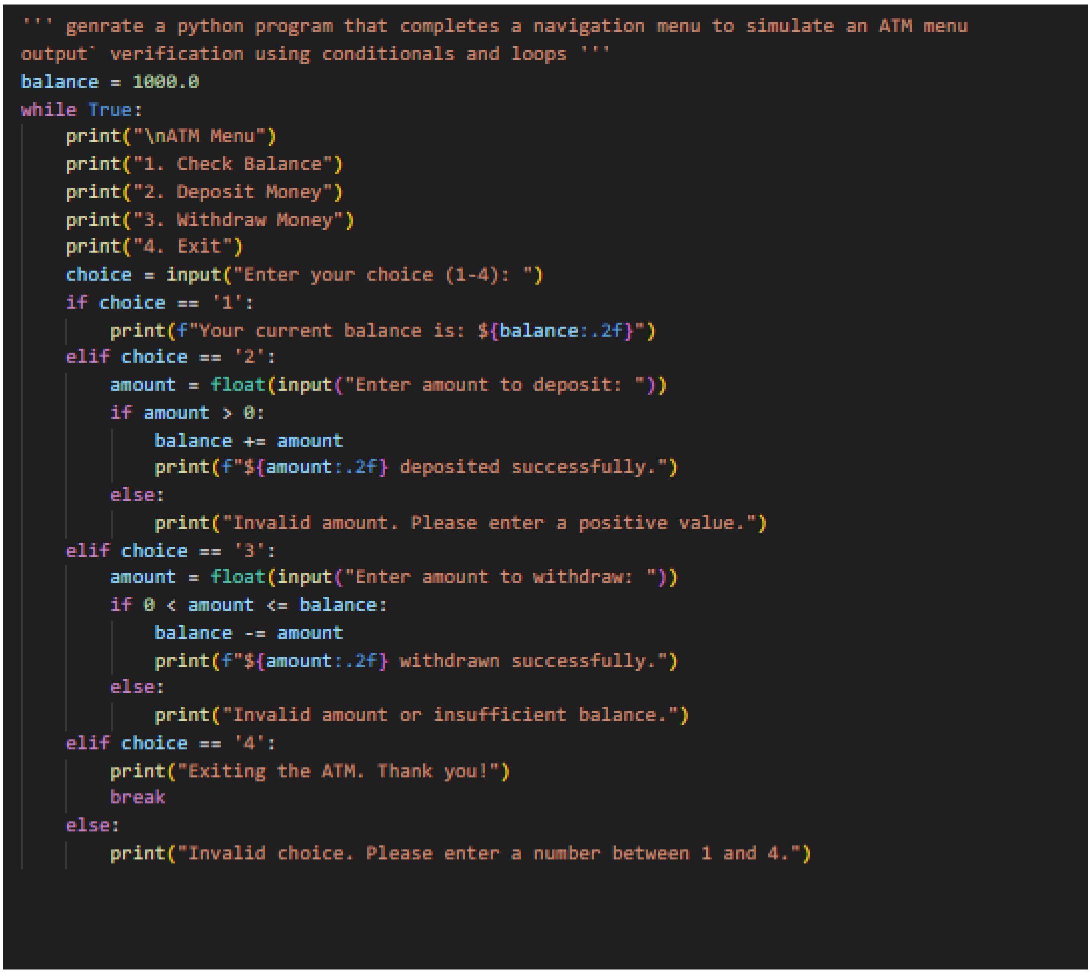
Task: Use an AI tool to complete a navigation menu.

Prompt: “Generate a Python program using loops and conditionals to simulate an ATM menu.”

Expected Output:

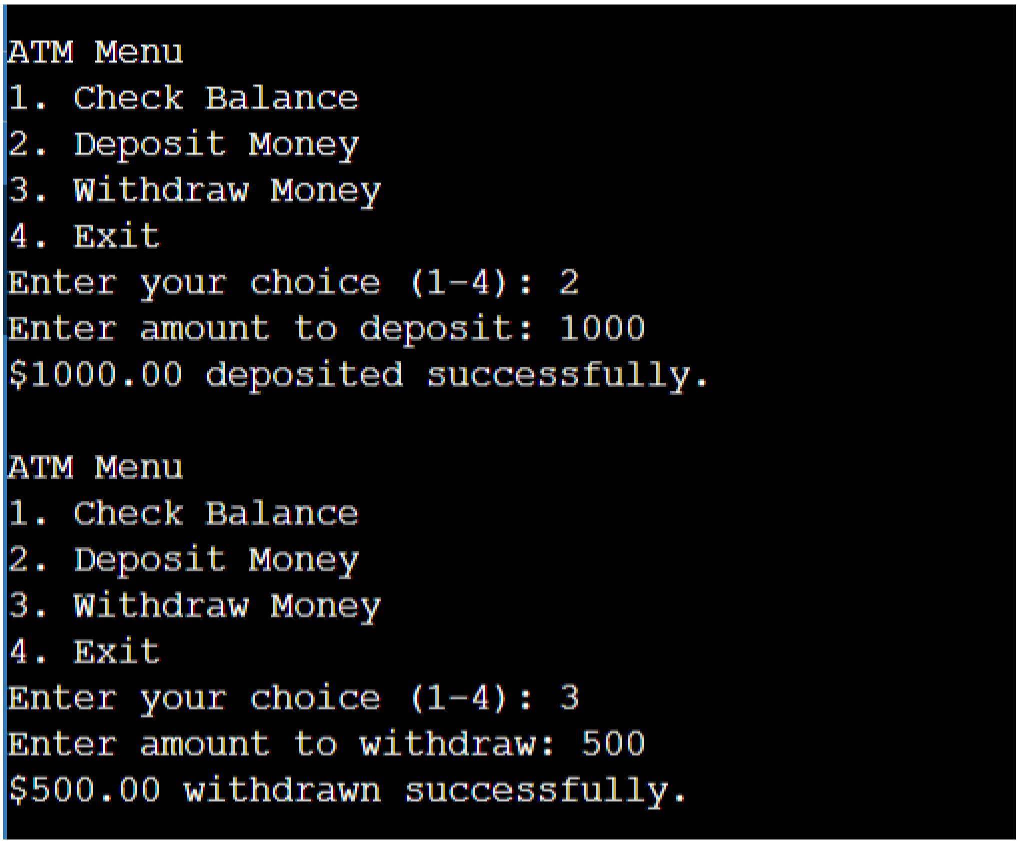
- AI-generated menu logic.
- Correct option handling.
- Output verification

Code:



```python
''' genrate a python program that completes a navigation menu to simulate an ATM menu
output` verification using conditionals and loops '''
balance = 1000.0
while True:
    print("\nATM Menu")
    print("1. Check Balance")
    print("2. Deposit Money")
    print("3. Withdraw Money")
    print("4. Exit")
    choice = input("Enter your choice (1-4): ")
    if choice == '1':
        print(f"Your current balance is: ${balance:.2f}")
    elif choice == '2':
        amount = float(input("Enter amount to deposit: "))
        if amount > 0:
            balance += amount
            print(f"${amount:.2f} deposited successfully.")
        else:
            print("Invalid amount. Please enter a positive value.")
    elif choice == '3':
        amount = float(input("Enter amount to withdraw: "))
        if 0 < amount <= balance:
            balance -= amount
            print(f"${amount:.2f} withdrawn successfully.")
        else:
            print("Invalid amount or insufficient balance.")
    elif choice == '4':
        print("Exiting the ATM. Thank you!")
        break
    else:
        print("Invalid choice. Please enter a number between 1 and 4.")
```

Output:



```
ATM Menu
1. Check Balance
2. Deposit Money
3. Withdraw Money
4. Exit
Enter your choice (1-4): 2
Enter amount to deposit: 1000
$1000.00 deposited successfully.

ATM Menu
1. Check Balance
2. Deposit Money
3. Withdraw Money
4. Exit
Enter your choice (1-4): 3
Enter amount to withdraw: 500
$500.00 withdrawn successfully.
```