

## Code Snippets:

```
PharmaTrack.py x
1 usage
2 class Drug:
3     def __init__(self, batch_number, name, expiry_date, manufacturer):
4         self.batch_number = batch_number
5         self.name = name
6         self.expiry_date = expiry_date
7         self.current_owner = manufacturer
8         self.history = [(manufacturer, "Manufactured")]
9     def transfer_ownership(self, new_owner):
10        self.history.append((self.current_owner, f"Transferred to {new_owner}"))
11        self.current_owner = new_owner
12    def verify(self):
13        return {
14            "Batch Number": self.batch_number,
15            "Name": self.name,
16            "Expiry Date": self.expiry_date,
17            "Current Owner": self.current_owner,
18            "History": self.history
19        }
20 class SupplyChain:
21     def __init__(self):
22         self.drugs = {}
23     def register_drug(self, batch_number, name, expiry_date, manufacturer):
24         if batch_number in self.drugs:
25             print(f"Drug with batch number {batch_number} is already registered.")
26         else:
27             drug = Drug(batch_number, name, expiry_date, manufacturer)
28             self.drugs[batch_number] = drug
29             print(f"Drug '{name}' registered successfully.")
30     def transfer_drug(self, batch_number, new_owner):
31         if batch_number not in self.drugs:
32             print(f"No drug found with batch number {batch_number}.")
33         else:
34             drug = self.drugs[batch_number]
35             drug.transfer_ownership(new_owner)
36             print(f"Ownership of drug '{drug.name}' transferred to {new_owner}.")
37     def verify_drug(self, batch_number):
38         if batch_number not in self.drugs:
39             print(f"No drug found with batch number {batch_number}.")
40         else:
41             drug = self.drugs[batch_number]
42             details = drug.verify()
43             print("Drug Details:")
44             for key, value in details.items():
45                 if key != "History":
46                     print(f"{key}: {value}")
47             print("History:")
48             for event in details["History"]:
49                 print(f"Event: {event}")
50
51 Run PharmaTrack x
52 MySpace > PharmaTrack.py
```

```
PharmaTrack.py x
22 def register_drug(self, batch_number, name, expiry_date, manufacturer):
23     if batch_number in self.drugs:
24         print(f"Drug with batch number {batch_number} is already registered.")
25     else:
26         drug = Drug(batch_number, name, expiry_date, manufacturer)
27         self.drugs[batch_number] = drug
28         print(f"Drug '{name}' registered successfully.")
29     def transfer_drug(self, batch_number, new_owner):
30         if batch_number not in self.drugs:
31             print(f"No drug found with batch number {batch_number}.")
32         else:
33             drug = self.drugs[batch_number]
34             drug.transfer_ownership(new_owner)
35             print(f"Ownership of drug '{drug.name}' transferred to {new_owner}.")
36     def verify_drug(self, batch_number):
37         if batch_number not in self.drugs:
38             print(f"No drug found with batch number {batch_number}.")
39         else:
40             drug = self.drugs[batch_number]
41             details = drug.verify()
42             print("Drug Details:")
43             for key, value in details.items():
44                 if key != "History":
45                     print(f"{key}: {value}")
46             print("History:")
47             for event in details["History"]:
48                 print(f"Event: {event}")
49
50 Run PharmaTrack x
51 MySpace > PharmaTrack.py
```

```
MySpace Version control Current File
PharmaTrack.py
47         for event in details["History"]:
48             print(f" - {event[0]}: {event[1]}")
49     usage
50     def main():
51         supply_chain = SupplyChain()
52         while True:
53             print("\nOptions:")
54             print("1. Register Drug")
55             print("2. Transfer Drug Ownership")
56             print("3. Verify Drug")
57             print("4. Exit")
58             choice = input("Enter your choice: ")
59             if choice == '1':
60                 batch_number = int(input("Enter batch number: "))
61                 name = input("Enter drug name: ")
62                 expiry_date = input("Enter expiry date (MM/YYYY): ")
63                 manufacturer = input("Enter manufacturer name: ")
64                 supply_chain.register_drug(batch_number, name, expiry_date, manufacturer)
65             elif choice == '2':
66                 batch_number = int(input("Enter batch number: "))
67                 new_owner = input("Enter new owner name: ")
68                 supply_chain.transfer_drug(batch_number, new_owner)
69             elif choice == '3':
70                 batch_number = int(input("Enter batch number: "))
71                 supply_chain.verify_drug(batch_number)
72             elif choice == '4':
73                 print("Exiting the system.")
74                 break
75     Drug
Run PharmaTrack
MySpace PharmaTrack.py 1:1 CRLF UTF-8 4 spaces Python 3.12 (2)
```

```
MySpace Version control Current File
PharmaTrack.py
53     print("1. Register Drug")
54     print("2. Transfer Drug Ownership")
55     print("3. Verify Drug")
56     print("4. Exit")
57     choice = input("Enter your choice: ")
58     if choice == '1':
59         batch_number = int(input("Enter batch number: "))
60         name = input("Enter drug name: ")
61         expiry_date = input("Enter expiry date (MM/YYYY): ")
62         manufacturer = input("Enter manufacturer name: ")
63         supply_chain.register_drug(batch_number, name, expiry_date, manufacturer)
64     elif choice == '2':
65         batch_number = int(input("Enter batch number: "))
66         new_owner = input("Enter new owner name: ")
67         supply_chain.transfer_drug(batch_number, new_owner)
68     elif choice == '3':
69         batch_number = int(input("Enter batch number: "))
70         supply_chain.verify_drug(batch_number)
71     elif choice == '4':
72         print("Exiting the system.")
73         break
74     else:
75         print("Invalid choice. Please select a valid option.")
76     if __name__ == "__main__":
77         main()
78     Drug
Run PharmaTrack
MySpace PharmaTrack.py 1:1 CRLF UTF-8 4 spaces Python 3.12 (2)
```

## How It Works

### 1. Registering a Drug:

- You enter the batch number, drug name, expiry date, and manufacturer.
- The system saves this information and acknowledges successful registration.

### 2. Transferring Ownership:

- You provide the batch number of the drug and the new owner's name.
- The system updates the drug's owner and records this change in the history.

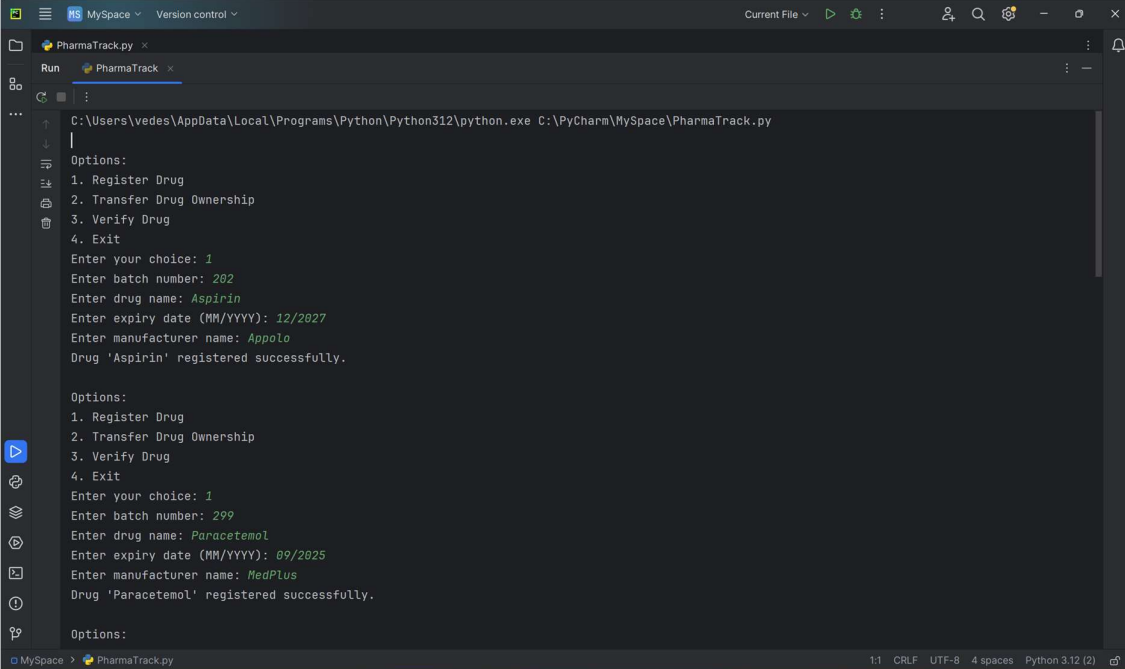
### 3. Verifying a Drug:

- You enter the batch number to see the current details and the full history of ownership changes.

### 4. Exiting:

- Choose to exit the system when you are done.

## Output:



```
C:\Users\vedes\AppData\Local\Programs\Python\Python312\python.exe C:\PyCharm\MySpace\PharmaTrack.py
Options:
1. Register Drug
2. Transfer Drug Ownership
3. Verify Drug
4. Exit
Enter your choice: 1
Enter batch number: 202
Enter drug name: Aspirin
Enter expiry date (MM/YYYY): 12/2027
Enter manufacturer name: Appolo
Drug 'Aspirin' registered successfully.

Options:
1. Register Drug
2. Transfer Drug Ownership
3. Verify Drug
4. Exit
Enter your choice: 1
Enter batch number: 299
Enter drug name: Paracetamol
Enter expiry date (MM/YYYY): 09/2025
Enter manufacturer name: MedPlus
Drug 'Paracetamol' registered successfully.

Options:
```

```
MySpace Version control Current File
PharmaTrack.py
Run PharmaTrack
Drug 'Paracetamol' registered successfully.

Options:
1. Register Drug
2. Transfer Drug Ownership
3. Verify Drug
4. Exit
Enter your choice: 2
Enter batch number: 202
Enter new owner name: MedPlus
Ownership of drug 'Aspirin' transferred to MedPlus.

Options:
1. Register Drug
2. Transfer Drug Ownership
3. Verify Drug
4. Exit
Enter your choice: 2
Enter batch number: 299
Enter new owner name: Appolo
Ownership of drug 'Paracetamol' transferred to Appolo.

Options:
1. Register Drug
2. Transfer Drug Ownership
3. Verify Drug
4. Exit
MySpace PharmaTrack.py 1:1 CRLF UTF-8 4 spaces Python 3.12 (2)
```

```
MySpace Version control Current File
PharmaTrack.py
Run PharmaTrack
Enter your choice: 3
Enter batch number: 202
Drug Details:
Batch Number: 202
Name: Aspirin
Expiry Date: 12/2027
Current Owner: MedPlus
History:
- Appolo: Manufactured
- Appolo: Transferred to MedPlus

Options:
1. Register Drug
2. Transfer Drug Ownership
3. Verify Drug
4. Exit
Enter your choice: 3
Enter batch number: 299
Drug Details:
Batch Number: 299
Name: Paracetamol
Expiry Date: 09/2025
Current Owner: Appolo
History:
- MedPlus: Manufactured
- MedPlus: Transferred to Appolo
MySpace PharmaTrack.py 1:1 CRLF UTF-8 4 spaces Python 3.12 (2)
```

```
MySpace Version control Current File
PharmaTrack.py
Run PharmaTrack
Options:
1. Register Drug
2. Transfer Drug Ownership
3. Verify Drug
4. Exit
Enter your choice: 3
Enter batch number: 299
Drug Details:
Batch Number: 299
Name: Paracetamol
Expiry Date: 09/2025
Current Owner: Appolo
History:
- MedPlus: Manufactured
- MedPlus: Transferred to Appolo
Options:
1. Register Drug
2. Transfer Drug Ownership
3. Verify Drug
4. Exit
Enter your choice: 4
Exiting the system.
Process finished with exit code 0
MySpace PharmaTrack.py 1:1 CRLF UTF-8 4 spaces Python 3.12 (2)
```