

Real-World Python Programs Using List, Set, and String

1. Add/remove items from a shopping cart and calculate total

```
cart = [("Pen", 10), ("Book", 50)]
cart.append(("Pencil", 5))
cart.remove(("Pen", 10))
total = sum(item[1] for item in cart)
print("Total:", total)
```

2. Store book names and remove a book once it's issued

```
books = ["Book1", "Book2", "Book3"]
issued = "Book2"
books.remove(issued)
print("Available books:", books)
```

3. Maintain a to-do list and mark completed tasks

```
todo = ["Task1", "Task2", "Task3"]
completed = "Task1"
todo.remove(completed)
print("Remaining tasks:", todo)
```

4. Count votes from a list and find the winner

```
votes = ["A", "B", "A", "C", "A"]
winner = max(set(votes), key=votes.count)
print("Winner:", winner)
```

5. Get average, max, and min of student marks

```
marks = [70, 85, 90, 60]
print("Average:", sum(marks)/len(marks))
print("Max:", max(marks))
print("Min:", min(marks))
```

6. Maintain list of team members, add/remove dynamically

```
team = ["Alice", "Bob"]
team.append("Charlie")
team.remove("Alice")
```

```
print("Current team:", team)
```

7. Track stops from origin to destination using a list

```
stops = ["Start", "Mid", "End"]
```

```
for stop in stops:
```

```
    print("Stop:", stop)
```

8. Store and plot stock price trends over a week

```
import matplotlib.pyplot as plt
```

```
prices = [100, 102, 105, 107, 110]
```

```
days = ["Mon", "Tue", "Wed", "Thu", "Fri"]
```

```
plt.plot(days, prices)
```

```
plt.title("Stock Prices Over a Week")
```

```
plt.xlabel("Days")
```

```
plt.ylabel("Prices")
```

```
plt.grid()
```

```
plt.show()
```

9. Sort daily sales to find highest earning day

```
sales = [("Mon", 100), ("Tue", 250), ("Wed", 180)]
```

```
highest_day = max(sales, key=lambda x: x[1])
```

```
print("Highest earning day:", highest_day)
```

10. Merge two user watchlists and remove duplicates

```
watch1 = ["Movie1", "Movie2"]
```

```
watch2 = ["Movie2", "Movie3"]
```

```
merged = list(set(watch1 + watch2))
```

```
print("Merged watchlist:", merged)
```

11. List of students present, find absentees

```
all_students = {"John", "Mike", "Sara"}
```

```
present = {"John", "Sara"}
```

```
absentees = all_students - present
```

```
print("Absentees:", absentees)
```

12. Store feedback messages and count negative ones

```
feedbacks = ["Good", "Bad", "Poor", "Excellent", "Bad"]
negatives = [f for f in feedbacks if f in ["Bad", "Poor"]]
print("Negative feedback count:", len(negatives))
```

13. Store AQI values and classify each day

```
aqi_values = [50, 120, 250]
```

```
for aqi in aqi_values:
```

```
    if aqi <= 100:
```

```
        print("Good")
```

```
    elif aqi <= 200:
```

```
        print("Moderate")
```

```
    else:
```

```
        print("Poor")
```