

NAME = PRANAV SINHA SAPID = 590029558 BATCH = 80

Q1. Scan n values in range 0-3 and print the number of times each value has occurred.

```
n = int(input("Enter number of values: "))

counts = [0, 0, 0, 0]

print(f"Enter {n} values (each between 0 and 3):")
for _ in range(n):
    val = int(input())
    if 0 <= val <= 3:
        counts[val] += 1
    else:
        print("Invalid input! Value must be between 0 and 3.")

for i in range(4):
    print(f"{i} occurred {counts[i]} times")
```

```
Enter number of values: 2
Enter 2 values (each between 0 and 3):
12
Invalid input! Value must be between 0 and 3.
1
0 occurred 0 times
1 occurred 1 times
2 occurred 0 times
3 occurred 0 times
```

Q2. Create a tuple to store n numeric values and find average of all values.

```
n = int(input("Enter number of values: "))

values = tuple(float(input(f"Enter value {i+1}: ")) for i in range(n))

average = sum(values) / n if n != 0 else 0

print("Values entered:", values)
print("Average of values:", average)
```

```
Enter number of values: 4
Enter value 1: 10
Enter value 2: 20
Enter value 3: 30
Enter value 4: 40
Values entered: (10.0, 20.0, 30.0, 40.0)
Average of values: 25.0
```

Q3.WAP to input a list of scores for N students in a list data type. Find the score of the runner up and print the output. Sample Input N = 5 Scores= 2 3 6 6 5 Sample output 5 Note: Given list is [2, 3, 6, 6, 5]. The maximum score is 6, second maximum is 5. Hence, we print 5 as the runner-up score.

```
N = int(input("Enter number of students: "))

scores = list(map(int, input(f"Enter {N} scores separated by spaces: ").split()))

unique_scores = list(set(scores))

unique_scores.sort(reverse=True)

if len(unique_scores) >= 2:
    runner_up = unique_scores[1]
    print("Runner-up score:", runner_up)
else:
    print("No runner-up score exists")
```

```
Enter number of students: 5
Enter 5 scores separated by spaces: 2 3 6 6 5
Runner-up score: 5
```

Q5. Store details of n movies in a dictionary by taking input from the user. Each movie must store details like name, year, director name, production cost, collection made (earning) & perform the following :- a) print all movie details b) display name of movies released before 2015 c) print movies that made a profit. d) print movies directed by a particular director.

```
n = int(input("Enter number of persons: "))

persons = {}
for _ in range(n):
    name = input("Enter name: ").strip()
    city = input("Enter city: ").strip()
    persons[name] = city

print("\nAll Names:")
for name in persons.keys():
    print(name)

print("\nAll Cities:")
for city in persons.values():
    print(city)

print("\nName and City of all persons:")
for name, city in persons.items():
    print(f"{name}: {city}")

city_count = {}
for city in persons.values():
    if city in city_count:
        city_count[city] += 1
    else:
        city_count[city] = 1

print("\nNumber of persons in each city:")
for city, count in city_count.items():
    print(f"{city}: {count}")
```

Q6. Create a contact book where users can store, search, update, and delete contacts. Use dictionary for storing contacts.

```
# Contact Book using Dictionary

contacts = {}

def add_contact():
    name = input("Enter name: ").strip()
    if name in contacts:
        print("Contact already exists!")
        return
    phone = input("Enter phone number: ").strip()
    email = input("Enter email: ").strip()
    contacts[name] = {"phone": phone, "email": email}
    print("Contact added successfully!")

def view_contacts():
    if not contacts:
        print("No contacts found.")
        return
    for name, details in contacts.items():
        print(f"\nName: {name}")
        print(f"Phone: {details['phone']}")
        print(f>Email: {details['email']}")

def search_contact():
    name = input("Enter name to search: ").strip()
    if name in contacts:
        print(f"\nName: {name}")
        print(f"Phone: {contacts[name]['phone']}")
        print(f>Email: {contacts[name]['email']}")
    else:
        print("Contact not found.")

def update_contact():
    name = input("Enter name to update: ").strip()
    if name in contacts:
        phone = input("Enter new phone number: ").strip()
        email = input("Enter new email: ").strip()
        contacts[name] = {"phone": phone, "email": email}
```

```

        print("Contact updated successfully!")
    else:
        print("Contact not found.")

def delete_contact():
    name = input("Enter name to delete: ").strip()
    if name in contacts:
        del contacts[name]
        print("Contact deleted successfully!")
    else:
        print("Contact not found.")

def menu():
    while True:
        print("\n===== Contact Book Menu =====")
        print("1. Add Contact")
        print("2. View All Contacts")
        print("3. Search Contact")
        print("4. Update Contact")
        print("5. Delete Contact")
        print("6. Exit")

        choice = input("Enter your choice (1-6): ")

        if choice == '1':
            add_contact()
        elif choice == '2':
            view_contacts()
        elif choice == '3':
            search_contact()
        elif choice == '4':
            update_contact()
        elif choice == '5':
            delete_contact()
        elif choice == '6':
            print("Exiting Contact Book. Goodbye!")
            break
        else:
            print("Invalid choice! Please try again.")

# Run the program
menu()

```

```

===== Contact Book Menu =====
1. Add Contact
2. View All Contacts
3. Search Contact
4. Update Contact
5. Delete Contact
6. Exit
Enter your choice (1-6): 6
Exiting Contact Book. Goodbye!

```

Q7. Create a Todo list Manager where users can add, view, and remove tasks. Use List for storing tasks.

```

def show_menu():
    print("\n===== TODO LIST MANAGER =====")
    print("1. Add Task")
    print("2. View Tasks")
    print("3. Remove Task")
    print("4. Exit")

def add_task(tasks):
    task = input("Enter the task: ")
    tasks.append(task)
    print(f"Task '{task}' added successfully!")

def view_tasks(tasks):
    if not tasks:
        print("No tasks available.")
    else:
        print("\nYour Tasks:")
        for index, task in enumerate(tasks, start=1):
            print(f"{index}. {task}")

def remove_task(tasks):
    view_tasks(tasks)
    if tasks:

```

```
try:
    task_number = int(input("Enter task number to remove: "))
    if 1 <= task_number <= len(tasks):
        removed = tasks.pop(task_number - 1)
        print(f"Task '{removed}' removed successfully!")
    else:
        print("Invalid task number.")
except ValueError:
    print("Please enter a valid number.")

def main():
    tasks = []

    while True:
        show_menu()
        choice = input("Choose an option (1-4): ")

        if choice == '1':
            add_task(tasks)
        elif choice == '2':
            view_tasks(tasks)
        elif choice == '3':
            remove_task(tasks)
        elif choice == '4':
            print("Exiting Todo List Manager. Goodbye!")
            break
        else:
            print("Invalid choice. Please try again.")

if __name__ == "__main__":
    main()
```

```
==== TODO LIST MANAGER ====
1. Add Task
2. View Tasks
3. Remove Task
4. Exit
```

Git hub link = <https://github.com/pranavssinha11-glitch/Python.git>