PYTHON LAB EXERCISE-3

13.02.26

NAME:SAHASRA MARREBOYINA
USN:1RUA25BCA0093

1.set

```
#set
a={1,2,3,4}
b={5,6,7,8,4}
a.add(60)
a
```

```
{1, 2, 3, 4, 60}
```

```
#copy
c=b.copy()
b
c
```

```
{4, 5, 6, 7, 8}
```

```
#union
a.union(b)
```

```
{1, 2, 3, 4, 5, 6, 7, 8, 60}
```

```
#intersection
a.intersection(b)
```

```
{4}
```

```
b.difference(a)
```

```
{5, 6, 7, 8}
```

```
#symmetric difference
a.symmetric_difference(b)
```

```
{1, 2, 3, 5, 6, 7, 8, 60}
```

```
#discard
a.discard(2)
a
```

```
{1, 3, 4, 60}
```

```
#update
a.update([20,30])
a
```

```
{1, 3, 4, 20, 30, 60}
```

```
#difference update
g={6,7,8,9}
h={4,5,6,0,7}
g.difference_update
g
```

```
{6, 7, 8, 9}
```

```
#disjoint
a={2,4,6,8}
b={1,3,5,7,8}
a.isdisjoint(b)
```

```
False
```

```
#subset
a={2,4,6,8}
b={1,3,5,7,8}
a.issubset(b)
```

```
False
```

```
#superset
a={2,4,6,8}
b={1,3,5,7,8}
a.issuperset(b)
```

```
False
```

Code:List operations using if-else.

```python
def list_operations():
    user_input = input("Enter elements of the list separated by spaces: ")
    my_list = user_input.split()

    while True:
        print("\n--- List Operations ---")
        print("1. Insert an element")
        print("2. Delete an element")
        print("3. Find an element")
        print("4. Display list")
        print("5. Exit")

        choice = int(input("Enter the choice: "))

        if choice == 1:
            element = input("Enter the element to insert: ")
            my_list.append(element)
            print(f"'{element}' added to the list.")

        elif choice == 2:
            element = input("Enter the element to delete: ")
            if element in my_list:
                my_list.remove(element)
                print(f"'{element}' deleted from the list.")
            else:
                print(f"'{element}' not found in the list.")

        elif choice == 3:
            element = input("Enter the element to find: ")
            if element in my_list:
                idx = my_list.index(element)
                print(f"'{element}' found at index {idx}.")
            else:
                print(f"'{element}' not found in the list.")

        elif choice == 4:
            print("Current List:", my_list)

        elif choice == 5:
            print("Exiting program. Goodbye!")
            break

        else:
            print("Invalid choice. Please select 1-5.")

list_operations()
```

Output:

```
Enter elements of the list separated by spaces:  6 7 67 89

--- List Operations ---
1. Insert an element
2. Delete an element
3. Find an element
4. Display list
5. Exit
Enter the choice:  3
Enter the element to find:  7
'7' found at index 1.

--- List Operations ---
1. Insert an element
2. Delete an element
3. Find an element
4. Display list
5. Exit
Enter the choice:  5
Exiting program. Goodbye!
```

Code:List operations with match case.

```
def list_operations():
    user_input = input("Enter elements of the list separated by spaces: ")
    my_list = user_input.split()

    while True:
        print("\n--- List Operations ---")
        print("1. Insert an element")
        print("2. Delete an element")
        print("3. Find an element")
        print("4. Display list")
        print("5. Exit")

        choice = input("Enter the choice: ")

        match choice:
            case "1":
                element = input("Enter the element to insert: ")
                my_list.append(element)
                print(f"'{element}' added to the list.")

            case "2":
                element = input("Enter the element to delete: ")
                if element in my_list:
                    my_list.remove(element)
                    print(f"'{element}' deleted from the list.")
                else:
                    print(f"'{element}' not found in the list.")

            case "3":
                element = input("Enter the element to find: ")
                if element in my_list:
                    idx = my_list.index(element)
                    print(f"'{element}' found at index {idx}.")
                else:
                    print(f"'{element}' not found in the list.")

            case "4":
                print("Current List:", my_list)

            case "5":
                print("Exiting program. Goodbye!")
                break

            case _:
                print("Invalid choice. Please select 1-5.")

list_operations()
```

Output:

```
Enter elements of the list separated by spaces:  1 2 3 4 5

--- List Operations ---
1. Insert an element
2. Delete an element
3. Find an element
4. Display list
5. Exit
Enter the choice:  4
Current List: ['1', '2', '3', '4', '5']

--- List Operations ---
1. Insert an element
2. Delete an element
3. Find an element
4. Display list
5. Exit
Enter the choice:  3
Enter the element to find:  8
'8' not found in the list.

--- List Operations ---
1. Insert an element
2. Delete an element
3. Find an element
4. Display list
5. Exit
Enter the choice:  5
Exiting program. Goodbye!
```