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## **Experiment 5**

### **Stack**

```
print("Simple STACK Data Structure Program")
stack = []
while True:
    print("\nSELECT APPROPRIATE CHOICE")
    print("1. PUSH Element into the Stack")
    print("2. POP Element from the Stack")
    print("3. Display Elements of the Stack")
    print("4. Exit")
    choice = int(input("Enter the Choice:"))
    if choice == 1:
        stack.append("Monday") # PUSH element Monday
        stack.append("Tuesday") # PUSH element Tuesday
        stack.append("Wednesday") # PUSH element Wednesday
        stack.append("Thursday") # PUSH element Thursday
        stack.append("Friday") # PUSH element Friday
        stack.append("Saturday") # PUSH element Saturday
        stack.append("Sunday") # PUSH element Sunday
        stack.append('8') # PUSH element 8
        print('\nTotal 8 elements PUSH into the STACK')
    elif choice == 2:
        if len(stack) == 0: # Check whether STACK is Empty or not
            print('The STACK is EMPTY No element to POP out')
        else:
            # pop() function to POP element from the STACK in LIFO order
            print("\nElement POP out from the STACK is:")
            print(stack.pop()) #Display the element which is POP out from the STACK
    elif choice == 3:
        if len(stack) == 0:
            print('The STACK is initially EMPTY')
        else:
            print("The Size of the STACK is: ",len(stack)) # Compute the size of the STACK
            print("\nSTACK elements are as follows:")
            print(stack)
    elif choice == 4:
        break
```

else:

print("Oops! Incorrect Choice")

## Output:

Simple STACK Data Structure Program

SELECT APPROPRIATE CHOICE

1. PUSH Element into the Stack
2. POP Element from the Stack
3. Display Elements of the Stack
4. Exit

Enter the Choice:1

Total 8 elements PUSH into the STACK

SELECT APPROPRIATE CHOICE

1. PUSH Element into the Stack
2. POP Element from the Stack
3. Display Elements of the Stack
4. Exit

Enter the Choice:3

The Size of the STACK is: 8

STACK elements are as follows:

['Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday', 'Sunday', '8']

SELECT APPROPRIATE CHOICE

1. PUSH Element into the Stack
2. POP Element from the Stack
3. Display Elements of the Stack
4. Exit

Enter the Choice:2

Element POP out from the STACK is: 8

SELECT APPROPRIATE CHOICE

1. PUSH Element into the Stack
2. POP Element from the Stack
3. Display Elements of the Stack
4. Exit

Enter the Choice:2

Element POP out from the STACK is: Sunday

SELECT APPROPRIATE CHOICE

1. PUSH Element into the Stack
2. POP Element from the Stack
3. Display Elements of the Stack
4. Exit

Enter the Choice:3

The Size of the STACK is: 6

STACK elements are as follows:

['Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday']