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EXPT NO 12:STACK USING ARRAYS ¶

In [7]:
```python
def push(stack, item , max_size):
    if len(stack) >= max_size:
        print("Stack Overflow")
    else:
        stack.append(item)
        print("Pushed", item, "to stack")

def pop(stack):
    if not stack:
        print("stack Underflow")
    else:
        stack.pop()
        print("Popped", item, "from stack" )

def display(stack):
    if not stack:
        print("Stack is Empty")
    else:
        print("Stack elements are:")
        for item in  reversed(stack):
            print(item)



max_size = int(input("Enter the maximum size of the stack:"))
stack = []

while True:
    print("_____")
    print("\n1. Push\n2. Pop\n3. Display\n4. Exit")
    choice = int(input("\nEnter your choice:"))

    if choice == 1:
        item = int(input("Enter the item to push:"))
        push(stack, item, max_size)
    elif choice == 2:
        pop(stack)
    elif choice == 3:
        display(stack)
    elif choice == 4:
        break
    else:
        print("Invalid choice, please try again")
```

```
Enter the maximum size of the stack:5
_____

1. Push
2. Pop
3. Display
4. Exit

Enter your choice:1
Enter the item to push:10
Pushed 10 to stack
_____

1. Push
2. Pop
3. Display
4. Exit

Enter your choice:1
Enter the item to push:20
Pushed 20 to stack
_____

1. Push
2. Pop
3. Display
4. Exit

Enter your choice:1
Enter the item to push:30
Pushed 30 to stack
_____

1. Push
2. Pop
3. Display
4. Exit

Enter your choice:1
Enter the item to push:40
Pushed 40 to stack
_____

1. Push
2. Pop
3. Display
4. Exit

Enter your choice:3
Stack elements are:
40
30
20
10
_____

1. Push
2. Pop
3. Display
4. Exit

Enter your choice:2
Popped 40 from stack
_____

1. Push
2. Pop
3. Display
```

4. Exit

Enter your choice:3
Stack elements are:
30
20
10
_____

1. Push
2. Pop
3. Display
4. Exit

Enter your choice:4