

Feb11 DSA Day6

February 11, 2021

1 Stack

```
[5]: def push(x):
    global top, size
    if top == size - 1:
        print('Overflow')
        return
    top += 1
    l.append(x)
    return

def stackPop():
    global top, size
    if top == -1:
        print('no items to delete')
        return
    x = l[top]
    top -= 1
    l.pop()
    print('Deleted Item:', x)
    return

def display():
    global top
    if top == -1:
        print('no items to display')
        return
    for i in range(top, -1, -1): #range(5, -1, -1)
        print(l[i])

l = []
top = -1
size = int(input('Enter the stack size: '))
push(10)
push(20)
push(30)
```

```
display()

stackPop()
display()
```

```
Enter the stack size: 5
30
20
10
Deleted Item: 30
20
10
```

2 Queue

FIFO - First In First Out front - Delete - dequeue rear - Insert - enqueue

```
[7]: def enqueue(x):
    global size, f, r
    if r == size - 1:
        print('Overflow')
        return
    if r == -1:
        f = r = 0
    else:
        r += 1
    q.append(x)
    return

def display():
    global size, f, r
    if f == -1:
        print('No item to display')
        return
    for i in range(f, r + 1):
        print(q[i], end = " ")
    return

q = []
f = r = -1
size = int(input('Enter the queue size: '))
enqueue(10)
enqueue(20)
enqueue(30)
```

```
display()
```

Enter the queue size: 5
10 20 30

3 Competitive Coding

l = [9, 6, 5, 8, 0, 2] 6 5 8 0 2 9 5 8 0 2 9 6 8 0 2 9 6 5

9 6 5 8 0 2 l = [9, 6, 5, 8, 0, 2]

8 0 2 9 6 5

```
[8]: l = [9, 6, 5, 8, 0, 2]
      k = int(input('Enter the no of left rotations: '))
      n = len(l)

      rot = k % n

      print(l[rot : ] + l[0 : rot])
```

Enter the no of left rotations: 3
[8, 0, 2, 9, 6, 5]

```
[ ]:
```