

Feb9 DSA Day4

February 9, 2021

```
[ ]: ob = Test() #object will be created
```

```
[1]: class Test:
      def __init__(self):
          self.a = 10

      def getA(self):
          return self.a

      def setA(self, x):
          self.a = x
```

```
ob = Test();
print(ob.getA())
ob.setA(20)
print(ob.getA())
```

10

20

```
[5]: class Test:
      def __init__(self):
          self.a = 5
```

```
ob1 = Test()
ob2 = Test()

ob1.a = 10;
ob2.a = 20;

print(id(ob1.a))
print(id(ob2.a))

print(ob1, ob2)
```

1656317248

1656317408

<__main__.Test object at 0x0597D7D0> <__main__.Test object at 0x0597D7F0>

1 Linked List

```
[11]: class Node:
        def __init__(self, data):
            self.data = data
            self.next = None

class LinkedList:
    def __init__(self):
        self.head = None

    def insert_beg(self, x):
        new = Node(x) #node class object created

        if self.head == None:
            self.head = new
            return

        new.next = self.head
        self.head = new

    def delete_beg(self):
        if self.head == None:
            print('List empty')
            return
        self.head = self.head.next # self.head = None

    def displaylist(self):
        if self.head == None:
            print('List empty')
            return
        temp = self.head
        while temp != None:
            print(temp.data, end = " ")
            temp = temp.next

li = LinkedList()
li.insert_beg(20)
li.displaylist()
print()
li.insert_beg(10)
li.insert_beg(30)
li.insert_beg(40)
```

```
li.displaylist()
print()
li.delete_beg()
li.displaylist()
```

```
20
40 30 10 20
30 10 20
```

2 Functions

Built in function User defined function

```
[13]: l = [3, 5, 7, 1, 8]
      print(max(l))
      print(len(l))
```

```
8
5
```

```
[14]: def add(a, b):
      print(a + b)

      add(10, 20)
```

```
30
```

```
[15]: def add(a, b):
      return a + b

      res = add(10, 20)
      print(res)
```

```
30
```

```
[16]: def add(a, b):
      return a + b

      print(add(10, 20))
```

```
30
```

3 Scope of variables

```
[17]: def fun():  
        x = 20  
        print('In function:', x)  
        return  
  
x = 10  
print(x)  
fun()  
print(x)
```

```
10  
In function: 20  
10
```

```
[18]: def fun():  
        global x  
        x = 20  
        print('In function:', x)  
        return  
  
x = 10  
print(x)  
fun()  
print(x)
```

```
10  
In function: 20  
20
```

```
[19]: for i in range(1, 5):  
        print('*' * i)
```

```
*  
**  
***  
****
```

```
[ ]:
```