

```
In [1]: #classnotes  
        #Number system  
        #list data structure  
        #deepseek llm model  
        #Home task
```

```
In [2]: #ipconfig is used to find the ip adress in the number system
```

```
In [3]: 25
```

```
Out[3]: 25
```

```
In [4]: bin(25)
```

```
Out[4]: '0b11001'
```

```
In [5]: int(0b11001)
```

```
Out[5]: 25
```

```
In [6]: bin(35)
```

```
Out[6]: '0b100011'
```

```
In [7]: oct(33)
```

```
Out[7]: '0o41'
```

```
In [8]: oct(25)
```

```
Out[8]: '0o31'
```

```
In [9]: int(0o31)
```

```
Out[9]: 25
```

```
In [10]: bin(7)
```

```
Out[10]: '0b111'
```

```
In [11]: hex(111)
```

```
Out[11]: '0x6f'
```

```
In [12]: hex(1)
```

```
Out[12]: '0x1'
```

```
In [13]: hex(256)
```

```
Out[13]: '0x100'
```

```
In [14]: int(0x1f)
```

```
Out[14]: 31
```

```
In [15]: hex(9)
```

```
Out[15]: '0x9'
```

```
In [16]: 0xa
```

```
Out[16]: 10
```

```
In [17]: 0xb
```

```
Out[17]: 11
```

```
In [18]: 0xc
```

```
Out[18]: 12
```

```
In [19]: 0xd
```

```
Out[19]: 13
```

```
In [20]: 0xe
```

```
Out[20]: 14
```

```
In [21]: 0xf
```

```
Out[21]: 15
```

```
In [22]: 0x19
```

```
Out[22]: 25
```

```
In [23]: #3 llm models  
#chatgpt -- openai  
#google --- google  
#llama -- mets  
#deepseek - it is a open scource
```

```
In [24]: #swaping numbers  
a=12  
b=13
```

```
In [25]: a=b  
        b=a
```

```
In [26]: print(a)  
        print(b)
```

```
13  
13
```

```
In [27]: a1=5  
        b1=3
```

```
In [28]: temp=a1  
        a1=b1  
        b1=temp
```

```
In [29]: print(a1)  
        print(b1)
```

```
3  
5
```

```
In [30]: a2=1  
        b2=3
```

```
In [31]: a2=a2+b2  
        b2=a2-b2  
        a2=a2-b2
```

```
In [32]: print(a2)  
        print(b2)
```

```
3  
1
```

```
In [33]: a3=22  
        b3=32
```

```
In [34]: #Best way to swap  
        a3,b3=b3,a3
```

```
In [35]: print(a3)  
        print(b3)
```

```
32  
22
```

```
In [36]: print(0b110)
         print(0b101)
```

```
6
5
```

```
In [38]: l=[40, 30, 20, 10]
```

```
In [39]: l1=[10, 2.2, True, '1+2j', [1, 2, 3]]
```

```
In [40]: l2=l1.copy()
```

```
In [41]: l.count(True)
```

```
Out[41]: 0
```

```
In [42]: l2[:]
```

```
Out[42]: [10, 2.2, True, '1+2j', [1, 2, 3]]
```

```
In [43]: l2[:4]
```

```
Out[43]: [10, 2.2, True, '1+2j']
```

```
In [44]: l2[3:]
```

```
Out[44]: ['1+2j', [1, 2, 3]]
```

```
In [45]: l2[:-1]
```

```
Out[45]: [10, 2.2, True, '1+2j']
```

```
In [46]: l2[::]
```

```
Out[46]: [10, 2.2, True, '1+2j', [1, 2, 3]]
```

```
In [47]: l2[::-1]
```

```
Out[47]: [[1, 2, 3], '1+2j', True, 2.2, 10]
```

```
In [48]: l2[::-2]
```

```
Out[48]: [[1, 2, 3], True, 10]
```

```
In [49]: l2[::1]
```

```
Out[49]: [10, 2.2, True, '1+2j', [1, 2, 3]]
```

```
In [50]: l.index(10)
```

```
Out[50]: 3
```

```
In [51]: l2.index(True)
```

```
Out[51]: 2
```

```
In [52]: l2.index('1+2j')
```

```
Out[52]: 3
```

```
In [53]: l2.clear()
```

```
In [54]: l2
```

```
Out[54]: []
```

```
In [55]: del l2
```

```
In [56]: l2
```

```
-----  
-  
NameError                                Traceback (most recent call las  
t)  
Cell In[56], line 1  
----> 1 l2  
  
NameError: name 'l2' is not defined
```

```
In [57]: l1
```

```
Out[57]: [10, 2.2, True, '1+2j', [1, 2, 3]]
```

```
In [58]: l1.pop()
```

```
Out[58]: [1, 2, 3]
```

```
In [59]: l
```

```
Out[59]: [40, 30, 20, 10]
```

```
In [60]: l.remove(20)
```

```
In [61]: l
```

```
Out[61]: [40, 30, 10]
```

```
In [62]: l.append(10)
l.append(20)
```

```
In [63]: l
```

```
Out[63]: [40, 30, 10, 10, 20]
```

```
In [64]: l.insert(2,25)
```

```
In [65]: l
```

```
Out[65]: [40, 30, 25, 10, 10, 20]
```

```
In [66]: l[0]=400
```

```
In [67]: l
```

```
Out[67]: [400, 30, 25, 10, 10, 20]
```

```
In [68]: l.extend(l1)
```

```
In [69]: l
```

```
Out[69]: [400, 30, 25, 10, 10, 20, 10, 2.2, True, '1+2j']
```

```
In [70]: for i in l1:
          print(i)
```

```
10
2.2
True
1+2j
```

```
In [71]: l
```

```
Out[71]: [400, 30, 25, 10, 10, 20, 10, 2.2, True, '1+2j']
```

```
In [72]: #append()= add the element at last
#reomve()= remove the value from the list
#pop()=reomve the element(if the index specifed it will remove there or els
#copy()=copy the list
#insert()=add the element in the list
#clear()= clear the element
#reverse()=Reverse the list
#extend()=it will add the two list in one
```

```
In [73]: l
```

```
Out[73]: [400, 30, 25, 10, 10, 20, 10, 2.2, True, '1+2j']
```

In []: