

```
In [1]: for i in range(10):  
        print(i,end=' ')
```

0 1 2 3 4 5 6 7 8 9

```
In [3]: l=[]  
        for i in range(10):  
            l.append(i)  
        l
```

Out[3]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

### Method-1: Only for loop

- what is the output we are saving : i
- what is the loop : for i in range(10)
- format: [output forloop]

```
In [4]: l=[i for i in range(10)]  
        l
```

Out[4]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

```
In [5]: # WAP : save the list of square numbers of 1 to 6  
square_list=[]  
for i in range(1,6):  
    square_list.append(i*i)
```

```
In [6]: square_list=[i*i for i in range(1,6)]  
square_list
```

Out[6]: [1, 4, 9, 16, 25]

```
In [ ]: # WAP l=['hyd','mumbai','pune']  
        # out=['Hyd','Mumbai','Pune']  
  
        # WAP l=['hyd','mumbai','pune']  
        # out=['HYD','MUMBAI','PUNE']  
  
        # WAP l=['hyd','mumbai','pune']  
        # out=[0,10,20]  
  
        # WAP l=['hyd','mumbai','pune']  
        # sum of the indexes
```

```
In [7]: # l=['hyd','mumbai','pune']  
        l=['hyd','mumbai','pune']  
        l1=[i.capitalize() for i in l]  
        l1
```

Out[7]: ['Hyd', 'Mumbai', 'Pune']

```
In [8]: l=['hyd','mumbai','pune']
l1=[i.upper() for i in l]
l1
```

```
Out[8]: ['HYD', 'MUMBAI', 'PUNE']
```

```
In [12]: l=['hyd','mumbai','pune']
l1=[l.index(i)*10 for i in l]
l1
```

```
Out[12]: [0, 10, 20]
```

```
In [13]: l=['hyd','mumbai','pune']
l1=[l.index(i) for i in l]
sum(l1)
```

```
Out[13]: 3
```

```
In [15]: d={'a':'a'}
```

```
In [16]: d.values()
```

```
Out[16]: dict_values(['a'])
```

```
In [17]: d.keys()
```

```
Out[17]: dict_keys(['a'])
```

## Method-2

### for loop and If condition

```
In [3]: # Q4) Wap
# L=['hyd','mum#bai','chen#nai']
# o=[mum#bai','chen#nai']
L=['hyd','mum#bai','chen#nai']
out=[]
for i in L:
    if '#' in i:
        out.append(i)
out
```

```
Out[3]: ['mum#bai', 'chen#nai']
```

```
In [4]: # syntax:[<writr output> <forloop> <ifcondition>]
```

```
Out[4]: ['mum#bai', 'chen#nai']
```

```
In [5]: L=['hyd','mum#bai','chen#nai']
out=[i for i in L if '#' in i]
```

```
In [6]: # Wap
# L=['hyd','mum#bai','chen#nai']
# o=['hyd']

L=['hyd','mum#bai','chen#nai']
```

```
out=[i for i in L if '#' not in i]
out
```

Out[6]: ['hyd']

```
In [7]: # Wap
# L=['hyd','mumbai','chennai']
# o=['mumbai','chennai']
# elements which are greaer than 4
L=['hyd','mumbai','chennai']
out=[i for i in L if len(i)>4]
out
```

Out[7]: ['mumbai', 'chennai']

```
In [ ]: [output forloop]
[output forloop ifcondtion]
[<ifouput> <ifcondition> <else> <else output> <forloop>]
```

```
In [10]: # wap ask get the even and odd numbers from 1 to 10
even_odd=[]
for i in range(1,10):
    if i%2==0:
        even_odd.append(f"even:{i}")
    else:
        even_odd.append(f"odd:{i}")
even_odd
```

Out[10]: ['odd:1',  
'even:2',  
'odd:3',  
'even:4',  
'odd:5',  
'even:6',  
'odd:7',  
'even:8',  
'odd:9']

```
In [11]: [f"even:{i}" if i%2==0 else f"odd:{i}" for i in range(1,10)]
```

Out[11]: ['odd:1',  
'even:2',  
'odd:3',  
'even:4',  
'odd:5',  
'even:6',  
'odd:7',  
'even:8',  
'odd:9']

```
In [ ]: for loop : [<output> <forloop>]
for -if : [<output> <for loop> <if condition>]
for if else : [<if out> <if con> <else> <else op> <forloop>]
```

```
In [12]: l=['hyd','mumbai','chennai']
[i for i in l if 'h' in i]
```

Out[12]: ['hyd', 'chennai']

```
In [ ]: for loop : [<output> <forloop>]
        for -if : [<output> <for loop> <if condition>]
        for if else : [<if out> <if con> <else> <else op> <forloop>]
        for if elif else:

        [<if out> <if con> <elif out> <elif con> <else> <else out> <for >]
```

```
In [ ]: l=[1,2,3,0,-3,-2]
        #out=['pos:1', 'pos:2', 'pos:3']
        out=[]
        for i in l:
            if i>0:
                print(i)
            elif i<0:
                print(i)
            else:
                print(i)
```

```
In [ ]: for if else : [<if out> <if con> <else> <else op> <forloop>]
        for if elif else:

        [<if out> <if con> =====else <elif out> if <elif cond>===== <else> <else out>]
```

```
In [15]: l=[1,2,3,0,-3,-2]
        out=[f"pos:{i}" if i>0
              else f"neg:{i}" if i<0
              else f"zero:{i}"
              for i in l]
        out
```

```
Out[15]: ['pos:1', 'pos:2', 'pos:3', 'zero:0', 'neg:-3', 'neg:-2']
```

```
In [ ]: for loop : [<output> <forloop>]
        for -if : [<output> <for loop> <if condition>]
        for if else : [<if out> <if con> <else> <else op> <forloop>]
```