In [2]:
```
matrix=[
    [1,2,3],
    [2,3,4],
    [4,5,6],
]
matrix
```

Out[2]:
```
[[1, 2, 3], [2, 3, 4], [4, 5, 6]]
```

In [4]:
```
matrix = [
    [1, 2, 3, 4],
    [5, 6, 7, 8],
    [9, 10, 11, 12],
]
matrix
```

Out[4]:
```
[[1, 2, 3, 4], [5, 6, 7, 8], [9, 10, 11, 12]]
```

In [5]:
```
[[row[i] for row in matrix] for i in range(4)]
[[1,2,3],[3,4,5],[5,6,7]]
```

Out[5]:
```
[[1, 2, 3], [3, 4, 5], [5, 6, 7]]
```

In [6]:
```
transposed =[]
for i in range(4):
    transposed.append([row[i] for row in matrix])
transposed
```

Out[6]:
```
[[1, 5, 9], [2, 6, 10], [3, 7, 11], [4, 8, 12]]
```

In [7]:
```
list(zip(*matrix))
```

Out[7]:
```
[(1, 5, 9), (2, 6, 10), (3, 7, 11), (4, 8, 12)]
```

In [9]:
```
m=[
    [1,2,3],
    [2,3,4],
    [4,5,6],
]
del m[1]
m
```

Out[9]:
```
[[1, 2, 3], [4, 5, 6]]
```

In [11]:
```
del m[1:2]
m
```

Out[11]:
```
[[1, 2, 3]]
```

In [13]:
```
del m[:]
m
```

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

In [15]:
```
empty = ()
singleton = 'hello',    # <-- note trailing comma
len(empty)
len(singleton)
```

Out[15]:
```
1
```

In [16]:
```
a=set('ajhhjshdh')
a
```

Out[16]:
```
{'a', 'd', 'h', 'j', 's'}
```

In [17]:
```
a = {x for x in 'abracadabra' if x not in 'abc'}
a
```

Out[17]:
```
{'d', 'r'}
```

In [ ]:
```
tel = {'jack': 4098, 'sape': 4139}
tel['guido'] = 4127
tel
```

In [18]:
```
tel ={"jasj":464,"kjsdk":9878}
tel["dhd"]=2543
tel
```

Out[18]:
```
{'jasj': 464, 'kjsdk': 9878, 'dhd': 2543}
```

In [19]:
```
del tel["dhd"]
tel
```

Out[19]:
```
{'jasj': 464, 'kjsdk': 9878}
```

In [20]:
```
'jack' in tel
```

Out[20]:
```
False
```

In [ ]:
```

```