```
In [1]:  import numpy as np

In [3]:  np.__version__

Out[3]:  '1.26.4'

In [5]:  import sys
         sys.version

Out[5]:  '3.12.4 | packaged by Anaconda, Inc. | (main, Jun 18 2024, 15:03:56) [MSC v.1929 6
         4 bit (AMD64)]'

In [7]:  my_list=[0,1,2,3,4,5]

In [9]:  my_list

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

In [11]: type(my_list)

Out[11]: list

In [13]: arr=np.array(my_list)

In [15]: arr

Out[15]: array([0, 1, 2, 3, 4, 5])

In [17]: type(arr)

Out[17]: numpy.ndarray

In [19]: type(my_list)

Out[19]: list

In [1]:  'nit'+'nit'

Out[1]:  'nitnit'

In [5]:  5*'nit'

Out[5]:  'nitnitnitnitnit'

In [9]:  5*' nit'

Out[9]:  ' nit nit nit nit nit'

In [11]: 'nit' 'nit'
```

```
Out[11]:  'nitnit'
```

```
In [13]:  print('c:\nit')
```

```
c:
it
```

```
In [15]:  print(r'c:\nit')
```

```
c:\nit
```

```
In [17]:  x=5
          x
```

```
Out[17]:  5
```

```
In [19]:  x+10
          x
```

```
Out[19]:  5
```

```
In [21]:  x+10
```

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

```
In [23]:  _+x
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[23], line 1
----> 1 _+x

TypeError: can only concatenate str (not "int") to str
```

```
In [25]:  name='nit'
```

```
In [27]:  name
```

```
Out[27]:  'nit'
```

```
In [29]:  name+'technology'
```

```
Out[29]:  'nittechnology'
```

```
In [31]:  name 'technology'
```

```
  Cell In[31], line 1
    name 'technology'
         ^
SyntaxError: invalid syntax
```

```
In [33]:  name
```

```
Out[33]:  'nit'
```

```
In [35]: len(name)
```

```
Out[35]: 3
```

```
In [37]: name1='fine'
         name1
```

```
Out[37]: 'fine'
```

```
In [41]: name1.replace('fine','dine')
```

```
Out[41]: 'dine'
```

name1[0]=d

```
In [44]: name1
```

```
Out[44]: 'fine'
```

```
In [46]: name1[1:]
```

```
Out[46]: 'ine'
```

```
In [48]: 'd'+name1[1:]
```

```
Out[48]: 'dine'
```

```
In [50]: len(name1)
```

```
Out[50]: 4
```

arithmetic operators

```
In [53]: x,y=10,5
         x
         y
```

```
Out[53]: 5
```

```
In [55]: x+y
```

```
Out[55]: 15
```

```
In [57]: x-y
```

```
Out[57]: 5
```

```
In [59]: x*y
```

```
Out[59]: 50
```

```
In [61]: x/y
```

```
Out[61]: 2.0
```

```
In [63]: x//y
```

```
Out[63]: 2
```

```
In [65]: x**y
```

```
Out[65]: 100000
```

```
In [69]: x1=3
         y1=3
         x1**y1
```

```
Out[69]: 27
```

unary operator

```
In [72]: n=7
         n
```

```
Out[72]: 7
```

```
In [74]: n=-(n)
```

```
In [76]: n
```

```
Out[76]: -7
```

```
In [78]: -n
```

```
Out[78]: 7
```

relational operator

```
In [82]: a=5
         b=6
         a<b
```

```
Out[82]: True
```

```
In [84]: a>b
```

```
Out[84]: False
```

```
In [86]: a==b
```

```
Out[86]:  False
```

```
In [88]:  a!=b
```

```
Out[88]:  True
```

```
In [92]:  b=5
          a==b
```

```
Out[92]:  True
```

```
In [94]:  b
```

```
Out[94]:  5
```

```
In [96]:  a<=b
```

```
Out[96]:  True
```

```
In [98]:  a>=b
```

```
Out[98]:  True
```

```
In [100…  a<b
```

```
Out[100…  False
```

```
In [102…  a>b
```

```
Out[102…  False
```

```
In [104…  b=7
```

```
In [106…  a!=b
```

```
Out[106…  True
```

logical operator

```
In [109…  a=5
          b=4
          a<8 and b<5
```

```
Out[109…  True
```

numbersys

```
In [112…  oct(25)
```

```
Out[112…  '0o31'
```

```
In [114…  0o31
```

```
Out[114…  25
```

```
In [116…  bin(25)
```

```
Out[116…  '0b11001'
```

```
In [120…  0b11001
```

```
Out[120…  25
```

```
In [122…  bin(7)
```

```
Out[122…  '0b111'
```

```
In [124…  hex(25)
```

```
Out[124…  '0x19'
```

```
In [126…  0x19
```

```
Out[126…  25
```

```
In [128…  0xa
```

```
Out[128…  10
```

```
In [132…  0xb
```

```
Out[132…  11
```

```
In [134…  a=5 #swap
          b=6
```

```
In [142…  a==b
          b==a
          print(a)
          print(b)
```

```
6
6
```

```
In [144…  a1=7
          b1=8
```

```
In [146…  temp=a1
          a1=b1
          b1=temp
          print(a1)
          print(b1)
```

```
8
7
```

In [150…

```
a1=7
b1=8
```

In [152…

```
a1,b1=b1,a1
```

In [154…

```
print(a1)
print(b1)
```

```
8
7
```

In [ ]: