Python as a Calculator

In [1]:
```
2+2
```

Out[1]: 4

In [2]:
```
50-5*6
```

Out[2]: 20

In [5]:
```
(50-5*6)/4
```

Out[5]: 5.0

In [8]:
```
8/5 # division always returns a flaoting point no
```

Out[8]: 1.6

In [9]:
```
17/3
```

Out[9]: 5.666666666666667

In [10]:
```
17//3
```

Out[10]: 5

In [11]:
```
17%3
```

Out[11]: 2

In [12]:
```
5*3+2
```

Out[12]: 17

In [13]:
```
5**2
```

Out[13]: 25

In [14]:
```
2**7
```

Out[14]: 128

In [15]:
```
width =20
height=5*9
width*height
```

Out[15]: 900

In [16]:
```
n
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[16], line 1
----> 1 n

NameError: name 'n' is not defined
```

In [19]:
```
4*3.75-1
```

Out[19]: -15.0

In [29]:
```
tax=12.5/100
price=100.50
price*tax
price
```

Out[29]: 100.5

In [28]:
```
price +_
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[28], line 1
----> 1 price +_

TypeError: unsupported operand type(s) for +: 'float' and 'str'
```

In [30]:
```
round(_,2)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[30], line 1
----> 1 round(_,2)

TypeError: type str doesn't define __round__ method
```

text

In [31]:
```
'spam eggs'
```

Out[31]: 'spam eggs'

In [32]:
```
'paris rabbit got your back:)!yay'
```

Out[32]: 'paris rabbit got your back:)!yay'

In [33]:
```
'2002'
```

Out[33]: '2002'

In [34]:
```
'doesn\'t'
```

Out[34]: "doesn't"

In [40]:
```
"doesn't"
```

Out[40]:
```
"doesn't"
```

In [42]:
```
'"yes,"they said.'
```

Out[42]:
```
'"yes,"they said.'
```

In [45]:
```
"'isn't'they said"
```

Out[45]:
```
"'isn't'they said"
```

In [48]:
```
s='first line.\nsecond line'
s
```

Out[48]:
```
'first line.\nsecond line'
```

In [49]:
```
print(s)
```

```
first line.
second line
```

In [54]:
```
print('c:\some\nname')
```

```
c:\some
name
```

```
<>:1: SyntaxWarning: invalid escape sequence '\s'
<>:1: SyntaxWarning: invalid escape sequence '\s'
C:\Users\sande\AppData\Local\Temp\ipykernel_10904\1961778437.py:1: SyntaxWarning: in
valid escape sequence '\s'
  print('c:\some\nname')
```

In [55]:
```
print(r'c:\some\name')
```

```
c:\some\name
```

In [60]:
```
print='("""\)'
print
```

```
<>:1: SyntaxWarning: invalid escape sequence '\)'
<>:1: SyntaxWarning: invalid escape sequence '\)'
C:\Users\sande\AppData\Local\Temp\ipykernel_10904\3648154127.py:1: SyntaxWarning: in
valid escape sequence '\)'
  print='("""\)'
```

Out[60]:
```
'("""\\)'
```

In [65]:
```
#3 times 'un', followed by  'ium' +'ium'
3* 'un'+'ium'
```

Out[65]:
```
'unununium'
```

In [66]:
```
'py''thon'
```

Out[66]:
```
'python'
```

In [69]:
```
text=('put serval strings within parentheses' 'to have them joined together')
text
```

Out[69]:
```
'put serval strings within parenthesesto have them joined together'
```

In [71]:
```
prefix='py'
prefix='thon'
```

Out[71]:
```
'thon'
```

In [79]:
```
s('un' *3)'ium'
s
```

```
  Cell In[79], line 1
    s('un' *3)'ium'
               ^
SyntaxError: invalid syntax
```

In [81]:
```
prefix+'thon'
```

Out[81]:
```
'thonthon'
```

In [84]:
```
word='python'
word[4]
```

Out[84]:
```
'o'
```

In [85]:
```
word[5]
```

Out[85]:
```
'n'
```

In [87]:
```
word[-1]
```

Out[87]:
```
'n'
```

In [89]:
```
word[0:2]
```

Out[89]:
```
'py'
```

In [91]:
```
word[:6]
```

Out[91]:
```
'python'
```

In [94]:
```
word[:2] +word[2:]
```

Out[94]:
```
'python'
```

In [96]:
```
word[:7]
```

Out[96]:
```
'python'
```

In [97]:
```
word[42]
```

```
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
Cell In[97], line 1
----> 1 word[42]

IndexError: string index out of range
```

In [98]:
```
word[4:42]
```

Out[98]:
```
'on'
```

In [99]:
```
word[42:]
```

Out[99]:
```
''
```

In [100…
```
word[0]'j'
```

```
  Cell In[100], line 1
    word[0]'j'
           ^
SyntaxError: invalid syntax
```

In [102…
```
word[2:]='py'
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[102], line 1
----> 1 word[2:]='py'

TypeError: 'str' object does not support item assignment
```

In [103…
```
'j'+ word[1:]
```

Out[103…
```
'jython'
```

In [105…
```
word[:2]+'py'
```

Out[105…
```
'pypy'
```

In [108…
```
s='supercalifragilisticexpicalidocious'
len(s)
```

Out[108…
```
35
```

In [109…
```
sqares=[1,4,9,16,25]
sqares
```

Out[109…
```
[1, 4, 9, 16, 25]
```

In [110…
```
sqares[0]
```

Out[110…
```
1
```

In [111…
```
sqares[-1]
```

Out[111… 25

In [120…
```
cubes=[1,8,27,65,125]
4**
```

Out[120… 16

In [122…
```
cubes[2]=16
cubes
```

Out[122… [1, 8, 16, 65, 125]

In [127…
```
cubes.append(216)
cubes.append(7**3)
cubes
```

Out[127… [1, 8, 16, 65, 125, 216, 343]

In [144…
```
rgb=["red","green","blue"]
rgba=rgb
id(rgb)==id(rgba)
rgba.append("Alph")
rgb
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[144], line 3
      1 rgb=["red","green","blue"]
      2 rgba=rgb
----> 3 id('rgb')==id('rgba')
      4 rgba.append("Alph")
      5 rgb

TypeError: 'bool' object is not callable
```

In [145…
```
letters=['a','b','c','d','e','f','g']
letters
```

Out[145… ['a', 'b', 'c', 'd', 'e', 'f', 'g']

In [148…
```
#replace some values
letters[2:5]= ['C','D','E']
letters
```

Out[148… ['a', 'b', 'C', 'D', 'E', 'f', 'g']

In [150…
```
#now remove them
letters[2:5]=[]
letters
```

Out[150… ['a', 'b']

In [152…
```
#clean the list by replacing all the elements with an empty list
letters[:]=[]
```

```
letters
```

Out[152…

```
[]
```

In [154…

```
letters=['a','b','c','d','e']
len(letters)
```

Out[154…

```
5
```

In [ ]:

```

```