In [2]:
```
3243523452345234523452348956293847569238475692387465293874569238745
6298347659238745692837465293874 56
```

Out[2]:
```
3243523452345234523452348956293847569238475692387465293874569238745
6298347659238745692837465293874 56
```

In [3]:
```
3+2
```

Out[3]:
```
5
```

In [4]:
```
3-2
```

Out[4]:
```
1
```

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

Out[5]:
```
6
```

In [6]:
```
3/2
```

Out[6]:
```
1.5
```

In [7]:
```
3//2
```

Out[7]:
```
1
```

In [8]:
```
10//3
```

Out[8]:
```
3
```

In [10]:
```
4**2
```

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

In [11]:
```
5%2
```

Out[11]:
```
1
```

In [12]:
```
5.0
```

Out[12]:
```
5.0
```

In [13]:
```
5
```

Out[13]:
```
5
```

In [14]:
```
"mitsos"
```

Out[14]:
```
'mitsos'
```

In [15]:
```
"5"
```

Out[15]:
```
'5'
```

In [16]:
```
5
```

Out[16]: 5

In [17]:
```
"mitsos" + "kostas"
```

Out[17]: 'mitsoskostas'

In [18]:
```
"mitsos" + " " + "kostas"
```

Out[18]: 'mitsos kostas'

In [19]:
```
""
```

Out[19]: ''

In [20]:
```
" "
```

Out[20]: ' '

In [21]:
```
"mitsos" * 5
```

Out[21]: 'mitsosmitsosmitsosmitsosmitsos'

In [22]:
```
"*" * 50
```

Out[22]: '**'

In [24]:
```
"Asdfasdf" - 5
```

```
---------------------------------------------------------------------
---------
TypeError                                 Traceback (most recent c
all last)
<ipython-input-24-a8acfcb129a3> in <module>()
----> 1 "Asdfasdf" - 5

TypeError: unsupported operand type(s) for -: 'str' and 'int'
```

In [25]:
```
"dfasdfasdf".count('a')
```

Out[25]: 2

In [26]:
```
"aaa bbb ccc".replace("bbb", "ppp")
```

Out[26]: 'aaa ppp ccc'

In [27]:
```
"aaa bbb ccc".replace("b", "ppp")
```

Out[27]: 'aaa pppppppp ccc'

In [28]:
```
"asdfasdfasdfasdf".upper()
```

Out[28]: 'ASDFASDFASDFASDF'

In [29]:
```
"ASDFASDFASDF".lower()
```
Out[29]: 'asdfasdfasdf'

In [30]:
```
"αλέξανδρος".upper()
```
Out[30]: 'ΑΛΈΞΑΝΔΡΟΣ'

In [31]:
```
"abcdefghijklm"[0]
```
Out[31]: 'a'

In [32]:
```
"abcdefghijklm"[1]
```
Out[32]: 'b'

In [34]:
```
"abcdefghijklm"[-1]
```
Out[34]: 'm'

In [35]:
```
"abcdefghijklm"[-2]
```
Out[35]: 'l'

In [ ]:
```
"abcdefghijklm"[2]
```

In [36]:
```
"abcd"[-2]
```
Out[36]: 'c'

In [37]:
```
"abcd"[2]
```
Out[37]: 'c'

In [38]:
```
"abcdefghijklm"[0:3]
```
Out[38]: 'abc'

In [39]:
```
"abcdefghijklm"[2:6]
```
Out[39]: 'cdef'

In [40]:
```
"abcdefghijklm"[2:8]
```
Out[40]: 'cdefgh'

In [41]:
```
""
```
Out[41]: ''

In [42]:
```
"a"
```
Out[42]: 'a'

In [44]:
```
"aaa"[1:2]
```

Out[44]:
```
'a'
```

In [45]:
```
"alexandros"
```

Out[45]:
```
'alexandros'
```

In [46]:
```
'alexandros'
```

Out[46]:
```
'alexandros'
```

In [48]:
```
'asdfasdfa"adfasdfs'
```

Out[48]:
```
'asdfasdfa"adfasdfs'
```

In [49]:
```
"asdfasdfa'adfasdfs"
```

Out[49]:
```
"asdfasdfa'adfasdfs"
```

In [50]:
```
'''dflkgdslk"gj'ha sdfas fdasdf's"ldkfg'''
```

Out[50]:
```
'dflkgdslk"gj\'ha sdfas fdasdf\'s"ldkfg'
```

In [51]:
```
"""dflkgdslk"gj'ha sdfas fdasdf's"ldkfg"""
```

Out[51]:
```
'dflkgdslk"gj\'ha sdfas fdasdf\'s"ldkfg'
```

In [52]:
```
"""
sdfg s.drmgnsd fklgn sd;kfg sdf
gsd f
hs
fghd f
ghdfdfg sdfg sdfg sdfg sdfg sdfg sfdg
gh

"""
```

Out[52]:
```
'\nsdfg s.drmgnsd fklgn sd;kfg sdf\ngsd f\nhs \nfghd f\nghdfdfg sd
fg sdfg sdfg sdfg sdfg sfdg \ngh\n\n'
```

In [53]:
```
"alksdjhflaskd\nhflaksjfh"
```

Out[53]:
```
'alksdjhflaskd\nhflaksjfh'
```

In [54]:
```
print ("alksdjhflaskd\nhflaksjfh")
```

```
alksdjhflaskd
hflaksjfh
```

In [55]:
```
'abcdef\'ghijkml'
```

Out[55]:
```
"abcdef'ghijkml"
```

In [56]:
```
"abcdef'ghijkml"
```

Out[56]:
```
"abcdef'ghijkml"
```

In [57]:
```
"abcdefghijklmn"[3:5]
```

Out[57]:
```
'de'
```

In [58]:
```
"abcdefghijklmn"[100]
```

```
---------------------------------------------------------------------
---------
IndexError                                Traceback (most recent c
all last)
<ipython-input-58-a8ba1681a8d5> in <module>()
----> 1 "abcdefghijklmn"[100]

IndexError: string index out of range
```

In [59]:
```
"abcdefghijklmn"[3:100]
```

Out[59]:
```
'defghijklmn'
```

In [61]:
```
"abcdefghijklmn"[2:10]
```

Out[61]:
```
'cdefghij'
```

In [65]:
```
"abcdefghijklmn"[2:10:2]
```

Out[65]:
```
'cegi'
```

```
a b c d e f g h i j k
0 1 2 3 4 5 6 7 8 9 10
    ^ ^ ^ ^ ^ ^ ^ ^
    2               10
    *   *   *   *
```

In [66]:
```
"abcdefghijklmnopqrst"[2:12:3]
```

Out[66]:
```
'cfil'
```

In [67]:
```
"abcdefghijklmnopqrst"[12:2:-3]
```

Out[67]:
```
'mjgd'
```

In [68]:
```
"abcdefghijklmnopqrst"[1000:2:-3]
```

Out[68]:
```
'tqnkhe'
```

In [69]:
```
"abcdefghijklmnopqrst"[1000:-20000:-3]
```

Out[69]:
```
'tqnkheb'
```

In [71]:
```
"abcdefghijklmnopqrst"[2:5]
```

Out[71]:
```
'cde'
```

In [72]:
```
"abcdefghijklmnopqrst"[0:5]
```

Out[72]:
```
'abcde'
```

In [73]:
```
"abcdefghijklmnopqrst"[:5]
```

Out[73]:
```
'abcde'
```

In [74]:
```
"abcdefghijklmnopqrst"[3:559238452345]
```

Out[74]:
```
'defghijklmnopqrst'
```

In [75]:
```
"abcdefghijklmnopqrst"[3:]
```

Out[75]:
```
'defghijklmnopqrst'
```

In [83]:
```
"abcdefghijklmnopqrst"[3:10:0]
```

```
---------------------------------------------------------------------
---------
ValueError                                Traceback (most recent c
all last)
<ipython-input-83-3b09ce22195e> in <module>()
----> 1 "abcdefghijklmnopqrst"[3:10:0]

ValueError: slice step cannot be zero
```

In [85]:
```
"abcdefghijklmnopqrst"[3:10:]
```

Out[85]:
```
'defghij'
```

In [87]:
```
"abcdefghijklmnopqrst"[10:2:-1]
```

Out[87]:
```
'kjihgfed'
```

In [88]:
```
"abcdefghijklmnopqrst"[10::-1]
```

Out[88]:
```
'kjihgfedcba'
```

In [89]:
```
"abcdefghijklmnopqrst"[:3:-1]
```

Out[89]:
```
'tsrqponmlkjihgfe'
```

In [90]:
```
"abcdefghijklmnopqrst"[::-1]
```

Out[90]:
```
'tsrqponmlkjihgfedcba'
```

In [91]:
```
"alekos"[::-1]
```

Out[91]:
```
'sokela'
```

In [92]:
```
"alekos"[::]
```

Out[92]:
```
'alekos'
```

In [93]:
```
# python slicing
```

In [94]:
```
"abcdefghijklmnopqrst"[ 10  :  2  : -1  ]
```
Out[94]: 'kjihgfed'

In [95]:
```
"abcdefghijklmnopqrst"[ 2  :  10  : +1  ]
```
Out[95]: 'cdefghij'

In [96]:
```
"abcdefghijklmnopqrst"[ -2  :  2  : -1  ]
```
Out[96]: 'srqponmlkjihgfed'

In [97]:
```
"abcdefghijklmnopqrst"[ -2  :  2  : -1  ]
```
Out[97]: ''

In [98]:
```
"abcdefghijklmnopqrst"[::-1]
```
Out[98]: 'tsrqponmlkjihgfedcba'

In [99]:
```
"ACGTGGTGCCCGGG"[::-1]
```
Out[99]: 'GGGCCCGTGGTGCA'

In [100]:
```
"fasdfasdfasdfasdfasdf".count('a')
```
Out[100]: 5

In [101]:
```
"fasdfasdfasdfasdfasdf".count('f')
```
Out[101]: 6

In [102]:
```
len("fasdfasdfasdfasdfasdf")
```
Out[102]: 21

In [103]:
```
"    fasdfasdfasdfasdf      ".strip()
```
Out[103]: 'fasdfasdfasdfasdf'

In [104]:
```
"++fasdfasdfasdfasdf++".strip('+')
```
Out[104]: 'fasdfasdfasdfasdf'

In [105]:
```
"xaralampos".replace('a', 'b')
```
Out[105]: 'xbrblbmpos'

In [106]:
```
"xaralampos".replace('a', 'b').count('b')
```
Out[106]: 3

In [107]:
```
"xaralampos".replace('a', 'b').replace('x', 'l')
```
Out[107]: 'lbrblbmpos'

In [108]:
```
"xaralampos".replace('ar', '')
```
Out[108]: 'xalampos'

In [109]:
```
"xaralampos".replace('ar', '--')
```
Out[109]: 'x--alampos'

In [110]:
```
"xaralampos".replace('ar', '--').replace('pos', '+++')
```
Out[110]: 'x--alam+++'

In [111]:
```
len("asdfasdfasdfasdfasdf")
```
Out[111]: 20

In [112]:
```
len('')
```
Out[112]: 0

In [113]:
```
len('                      ')
```
Out[113]: 22

In [114]:
```
len(' ')
```
Out[114]: 1

In [116]:
```
len('')
```
Out[116]: 0

In [117]:
```
type(45)
```
Out[117]: int

In [118]:
```
type(45.0)
```
Out[118]: float

In [119]:
```
type('mitsos')
```
Out[119]: str

In [120]:
```
int(45.0)
```
Out[120]: 45

In [121]:
```
int(45.1)
```
Out[121]: 45

In [122]:
```
float(45)
```
Out[122]: 45.0

In [124]:
```
int("    45       ")
```

Out[124]: 45

In [125]:
```
float("   45.3   ")
```

Out[125]: 45.3

In [126]:
```
str(45)
```

Out[126]: '45'

In [127]:
```
str(45.3)
```

Out[127]: '45.3'

In [128]:
```
5+6
```

Out[128]: 11

In [129]:
```
"alekos" + "mitsops"
```

Out[129]: 'alekosmitsops'

In [130]:
```
float("mitsos")
```

```
---------------------------------------------------------------------
---------
ValueError                                Traceback (most recent c
all last)
<ipython-input-130-0b88b66811b2> in <module>()
----> 1 float("mitsos")

ValueError: could not convert string to float: 'mitsos'
```

In [131]:
```
str(66666)
```

Out[131]: '66666'

In [134]:
```
False + False
```

Out[134]: 0

In [ ]:
```

```

In [133]:
```
True + True
```

Out[133]: 2

In [135]:
```
True + True
```

Out[135]: 2

In [136]:
```
True and True
```

Out[136]: True

In [137]:
```
True and False
```

Out[137]: False

In [138]:
```
False and True
```

Out[138]: False

In [139]:
```
False and False
```

Out[139]: False

In [140]:
```
0 and 1
```

Out[140]: 0

In [141]:
```
5 + 3
```

Out[141]: 8

In [142]:
```
5 < 3
```

Out[142]: False

In [143]:
```
3 < 5
```

Out[143]: True

In [144]:
```
3 < 3
```

Out[144]: False

In [145]:
```
3 <= 3
```

Out[145]: True

In [146]:
```
3 > 5
```

Out[146]: False

In [147]:
```
3 >= 3
```

Out[147]: True

In [148]:
```
3 == 3
```

Out[148]: True

In [149]:
```
3== 4
```

Out[149]: False

In [150]:
```
"mitsos" == "mitsos"
```

Out[150]: True

In [152]:
```
"mitsos" == "Mitsos"
```

Out[152]: False

In [153]:
```
"5" == 5
```

Out[153]: False

In [154]:
```
5 == 5
```

Out[154]: True

In [155]:
```
"5" == "5"
```

Out[155]: True

In [156]:
```
5.0 == 5
```

Out[156]: True

In [157]:
```
5 != 3
```

Out[157]: True

In [158]:
```
5 != 5
```

Out[158]: False

In [159]:
```
5 == 5
```

Out[159]: True

In [160]:
```
5 == 3
```

Out[160]: False

In [161]:
```
"asdasdasdasd".count('a')
```

Out[161]: 4

In [164]:
```
"asdasdasdasd".count('q') == 0
```

Out[164]: True

In [165]:
```
 True  and True
```

Out[165]: True

In [166]:
```
False and True
```

Out[166]: False

In [167]:
```
True and False
```

Out[167]: False

In [168]:
```
False and False
```
Out[168]: False

In [169]:
```
3<5 and 5<3
```
Out[169]: False

In [170]:
```
"mitsos" == "mitsos" and 3==5-2
```
Out[170]: True

In [171]:
```
("mitsos" == "mitsos") and (3==5-2)
```
Out[171]: True

In [172]:
```
10+6/2
```
Out[172]: 13.0

In [174]:
```
10 + (6/2)
```
Out[174]: 13.0

In [175]:
```
1/1
```
Out[175]: 1.0

In [176]:
```
10 + (6*2)
```
Out[176]: 22

In [177]:
```
True and False
```
Out[177]: False

In [178]:
```
True or False
```
Out[178]: True

In [179]:
```
True or True
```
Out[179]: True

In [180]:
```
True or False
```
Out[180]: True

In [181]:
```
False or True
```
Out[181]: True

In [182]:
```
False or False
```
Out[182]: False

```
or --->   ή
and -->   κα
```

καλός καιρός ΚΑΙ ΔΕΝ εχω δουλειά

καλός καιρός Ή ΔΕΝ εχω δουλειά

In [183]:
```
+4
```

Out[183]:
```
4
```

In [184]:
```
-4
```

Out[184]:
```
-4
```

In [185]:
```
not False
```

Out[185]:
```
True
```

In [186]:
```
not True
```

Out[186]:
```
False
```

In [187]:
```
(True and True) or (False and True)
```

Out[187]:
```
True
```

In [188]:
```
(5+3) - (4*2)
```

Out[188]:
```
0
```

In [189]:
```
not (False or True)
```

Out[189]:
```
False
```

In [190]:
```
4 + (True or False)
```

Out[190]:
```
5
```

In [194]:
```
0 and True
```

Out[194]:
```
0
```

In [195]:
```
0.000000000000000000001 and True
```

Out[195]:
```
True
```

In [196]:
```
type(3)
```

Out[196]:
```
int
```

In [197]:
```
type(True)
```

Out[197]:
```
bool
```

In [198]:
```
bool(0)
```
Out[198]: False

In [199]:
```
bool(1)
```
Out[199]: True

In [200]:
```
bool(0.000000000001)
```
Out[200]: True

In [201]:
```
bool(-0.0000000000001)
```
Out[201]: True

In [202]:
```
bool('mitsos')
```
Out[202]: True

In [203]:
```
bool('')
```
Out[203]: False

In [205]:
```
bool(' ')
```
Out[205]: True

In [206]:
```
int(45.5)
```
Out[206]: 45

In [208]:
```
int("45")
```
Out[208]: 45

In [211]:
```
type(4+5j)
```
Out[211]: complex

In [213]:
```
complex(5)
```
Out[213]: (5+0j)

In [215]:
```
"                    "
```
Out[215]: '   '

In [216]:
```
3+5
```
Out[216]: 8

In [217]:
```
3 + 5
```
Out[217]: 8

In [ ]: