Type Casting

Interger Type Casting

```
In [2]: int(3.4)

Out[2]: 3

In [4]: int(3.5)

Out[4]: 3

In [6]: int(4)

Out[6]: 4

In [8]: int(4.0)

Out[8]: 4

In [10]: int(0.0)

Out[10]: 0

In [12]: int(0)

Out[12]: 0

In [14]: int(3.7)

Out[14]: 3

In [16]: int(True)

Out[16]: 1

In [18]: int(False)

Out[18]: 0

In [22]: int(int(True))

Out[22]: 1

In [28]: int(5.6 + 2.5)
```

```
Out[28]: 8

In [34]: int(5.6 * 2.59)

Out[34]: 14

In [34]: int(5.6 * 2.59)

Out[34]: 14
```

Boolean Type Casting

```
In [36]: int(int(True) + int(False))

Out[36]: 1

In [38]: int(int(True) + 2.34)

Out[38]: 3
```

string Type Casting

```
In [ ]:

In [ ]:

In [43]: int('10')

Out[43]: 10
```

Need to check these examples

```
In [ ]:

In [45]: int('ten')
```

```
---------------------------------------------------------------------------
-
ValueError                                Traceback (most recent call las
t)
Cell In[45], line 1
----> 1 int('ten')

ValueError: invalid literal for int() with base 10: 'ten'
```

```
In [ ]:
```

```
In [49]: int('Str')
```

```
---------------------------------------------------------------------------
-
ValueError                                Traceback (most recent call las
t)
Cell In[49], line 1
----> 1 int('Str')

ValueError: invalid literal for int() with base 10: 'Str'
```

```
In [51]: int('10' + '10')
```

```
Out[51]: 1010
```

```
In [53]: int(25 + '10')
```

```
---------------------------------------------------------------------------
-
TypeError                                 Traceback (most recent call las
t)
Cell In[53], line 1
----> 1 int(25 + '10')

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

```
In [55]: int('10' * '10')
```

```
---------------------------------------------------------------------------
-
TypeError                                 Traceback (most recent call las
t)
Cell In[55], line 1
----> 1 int('10' * '10')

TypeError: can't multiply sequence by non-int of type 'str'
```

```
In [63]: float('2.4' + '3')
```

```
Out[63]: 2.43
```

```
In [57]: int('10' - '10')
```

```
---------------------------------------------------------------------------
-
TypeError                                 Traceback (most recent call las
t)
Cell In[57], line 1
----> 1 int('10' - '10')

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

```
In [59]: int('10' + '10')

Out[59]: 1010

In [ ]:

In [61]: float('2.4' + '3.4')
```

```
---------------------------------------------------------------------------
-
ValueError                                Traceback (most recent call las
t)
Cell In[61], line 1
----> 1 float('2.4' + '3.4')

ValueError: could not convert string to float: '2.43.4'
```

```
In [ ]:
```

Complex Type Casting

```
In [67]: int(1+2j)
```

```
---------------------------------------------------------------------------
-
TypeError                                 Traceback (most recent call las
t)
Cell In[67], line 1
----> 1 int(1+2j)

TypeError: int() argument must be a string, a bytes-like object or a real
number, not 'complex'
```

Type Casting to other data types to Int

```
In [70]: float(1)

Out[70]: 1.0

In [74]: float(2.0)

Out[74]: 2.0

In [78]: float('10')

Out[78]: 10.0
```

```
In [80]: float(101)

Out[80]: 101.0

In [82]: float('10.2' + '12.1')

---------------------------------------------------------------------------
-
ValueError                                Traceback (most recent call las
t)
Cell In[82], line 1
----> 1 float('10.2' + '12.1')

ValueError: could not convert string to float: '10.212.1'

In [84]: float('10' + 10.2)

---------------------------------------------------------------------------
-
TypeError                                 Traceback (most recent call las
t)
Cell In[84], line 1
----> 1 float('10' + 10.2)

TypeError: can only concatenate str (not "float") to str

In [86]: float( 10 + 20)

Out[86]: 30.0

In [88]: int(10 * 10)

Out[88]: 100

In [90]: float(True)

Out[90]: 1.0

In [92]: float(1.2 + 2.3)

Out[92]: 3.5

In [94]: float('10')

Out[94]: 10.0

In [96]: float('10.2' + 10)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[96], line 1
----> 1 float('10.2' + 10)

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

In [98]:
```
float(False)
```
Out[98]:
```
0.0
```

In [100…
```
float(True + 1.25)
```
Out[100…
```
2.25
```

In [102…
```
int(int('10') + int('10'))
```
Out[102…
```
20
```

In [104…
```
int(int('10') * int('10'))
```
Out[104…
```
100
```

In [106…
```
int(int('10') / int('10'))
```
Out[106…
```
1
```

python Operators

In [ ]:

In [ ]:

Arithmetic Operator Examples

In [110…
```
x1, y1 = -10,5
```

In [139…
```
x1 + y1
```
Out[139…
```
15
```

In [114…
```
x1 - y1
```
Out[114…
```
5
```

In [116…
```
y1 - x1
```
Out[116…
```
-5
```

doubt: need to check tomorrow

In [118…
```
y1 * x1
```
Out[118…
```
50
```

In [ ]:
```

```

In [120…
```
y1 * x1
```
Out[120…
```
50
```

In [122…
```
y1 - x1
```
Out[122…
```
-5
```

In [ ]:
```

```

In [ ]:
```

```

In [ ]:
```

```

In [133…
```
x2, y2 = -10,5
```

In [135…
```
x2 - y2
```
Out[135…
```
-15
```

In [137…
```
x2 + y2
```
Out[137…
```
-5
```

In [141…
```
x1 + y1
```
Out[141…
```
15
```

In [143…
```
x2 * y2
```
Out[143…
```
-50
```

In [145…
```
y2 * x2
```
Out[145…
```
-50
```

```
In [147…  y1 + x1

Out[147…  15
```

Assigment Operator

```
In [150…  x =2

In [162…  x =+ 2
          x

Out[162…  2

In [160…  x+= 2
          x

Out[160…  12

In [166…  x *=2
          x

Out[166…  8

In [168…  x=*2

  Cell In[168], line 1
    x=*2
      ^
SyntaxError: can't use starred expression here

In [170…  x /= 2
          x

Out[170…  4.0

In [174…  x //=2
          x

Out[174…  2.0
```

Relational Operator

```
In [ ]:

In [177…  a = 6
          b = 6
```

```
In [199…  b >=6

Out[199…  True

In [201…   a >=b

Out[201…  False

In [ ]:

In [ ]:

In [ ]:

In [179…  a >b

Out[179…  False

In [ ]:

In [181…  a < b

Out[181…  True

In [183…  a == b

Out[183…  False

In [185…  a != b

Out[185…  True

In [187…   c = 5
          d = 5

In [189…  c ==5

Out[189…  True

In [191…  c === 5

            Cell In[191], line 1
              c === 5
                  ^
          SyntaxError: invalid syntax

In [193…  c != 5

Out[193…  False
```

In [195…
```
c >= d
```
Out[195…
```
True
```
In [204…
```
c < d
```
Out[204…
```
False
```

Logical operators

In [207…
```
a>2 or b>3
```
Out[207…
```
True
```
In [210…
```
a>2 and b>3
```
Out[210…
```
True
```
In [ ]:
```

```
In [ ]:
```

```