Type casting

In [1]:
```
int(2.4)
```

Out[1]: 2

In [2]:
```
int(2.3,3.4)                    # type casting only allows only argument
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-2-e71fe55ac581> in <module>
----> 1 int(2.3,3.4)                    # type casting only allows only ar
gument

TypeError: 'float' object cannot be interpreted as an integer
```

In [3]:
```
int(True)
```

Out[3]: 1

In [4]:
```
int(False)
```

Out[4]: 0

In [5]:
```
int(1+2j)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-5-92955e8f77c0> in <module>
----> 1 int(1+2j)

TypeError: can't convert complex to int
```

In [6]:
```
int('10')
```

Out[6]: 10

In [7]:
```
int("akshitha")
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-7-72fd92df2e13> in <module>
----> 1 int("akshitha")

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

In [8]:
```
float(10)
```

Out[8]:
```
10.0
```

In [9]:
```
float(2,4)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-9-87227199ee6b> in <module>
----> 1 float(2,4)

TypeError: float expected at most 1 argument, got 2
```

In [10]:
```
float(True)
```

Out[10]:
```
1.0
```

In [11]:
```
float(False)
```

Out[11]:
```
0.0
```

In [12]:
```
float(1+3j)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-12-facba6f9ec23> in <module>
----> 1 float(1+3j)

TypeError: can't convert complex to float
```

In [13]:
```
float("akshitha")
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-13-ff0cae927d4e> in <module>
----> 1 float("akshitha")

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

In [14]:
```
complex(10)
```

Out[14]:
```
(10+0j)
```

In [15]:
```
complex(10,20)
```

Out[15]:
```
(10+20j)
```

In [16]:
```
complex(2.3)
```

Out[16]: (2.3+0j)

In [17]:
```
complex(10,20,30)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-17-7c7b097be5b9> in <module>
----> 1 complex(10,20,30)

TypeError: complex() takes at most 2 arguments (3 given)
```

In [18]:
```
complex("akshitha")
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-18-3aa1c9f5ee44> in <module>
----> 1 complex("akshitha")

ValueError: complex() arg is a malformed string
```

In [19]:
```
complex(2.3,3.4)
```

Out[19]: (2.3+3.4j)

In [20]:
```
complex(10,'20')
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-20-4073c939d6ee> in <module>
----> 1 complex(10,'20')

TypeError: complex() second arg can't be a string
```

In [21]:
```
complex('10')
```

Out[21]: (10+0j)

In [22]:
```
complex(True,False)
```

Out[22]: (1+0j)

In [23]:
```
complex(False,True)
```

Out[23]: 1j

In [24]:
```
bool( )
```

Out[24]: False

In [25]:
```
bool(13)
```

Out[25]: True

In [26]:
```
bool("akshitha")
```

Out[26]: True

In [27]:
```
bool(1.2)
```

Out[27]: True

In [28]:
```
bool(1+2j)
```

Out[28]: True

In [29]:
```
bool(0+0j)
```

Out[29]: False

In [30]:
```
str(10)
```

Out[30]: '10'

In [31]:
```
str(1.2)
```

Out[31]: '1.2'

In [32]:
```
str(1+2j)
```

Out[32]: '(1+2j)'

In [33]:
```
str(False)
```

Out[33]: 'False'

In [34]:
```
import sys
import keyword
import operator
from datetime import datetime
import os
```

keywords

In [35]:
```
print(keyword.kwlist)
```

```
['False', 'None', 'True', 'and', 'as', 'assert', 'async', 'await', 'break',
'class', 'continue', 'def', 'del', 'elif', 'else', 'except', 'finally', 'fo
r', 'from', 'global', 'if', 'import', 'in', 'is', 'lambda', 'nonlocal', 'no
t', 'or', 'pass', 'raise', 'return', 'try', 'while', 'with', 'yield']
```

In [36]:
```
len(keyword.kwlist)
```

Out[36]: 35

identifiers

In [37]:
```
1var=10
```

```
  File "<ipython-input-37-816f5e692135>", line 1
    1var=10
     ^
SyntaxError: invalid syntax
```

In [38]:
```
val2@=35
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-38-05b4ada72db7> in <module>
----> 1 val2@=35

NameError: name 'val2' is not defined
```

In [39]:
```
import=125
```

```
  File "<ipython-input-39-ad71b7442766>", line 1
    import=125
          ^
SyntaxError: invalid syntax
```

In [40]:
```
val2=10
```

In [41]:
```
val_99
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-41-a127e276be31> in <module>
----> 1 val_99

NameError: name 'val_99' is not defined
```

In [42]:
```
p=20
q=20
r=q
p, type(p), hex(id(p))
```

Out[42]:
```
(20, int, '0x7ff8c7d42990')
```

#variable assignment

In [44]:
```
intvar=10
floatvar=2.57
strvar="python language"
print(intvar)
print(floatvar)
print(strvar)
```

```
10
2.57
python language
```

In [45]:
```
p1=p2=p3=p4=88
print(p1,p2,p3,p4)
```

```
88 88 88 88
```

data types

In [49]:
```
# numeric
num=10
print(type(num))
print(sys.getsizeof(num))
print(num,"is integer?",isinstance(num,int))
```

```
<class 'int'>
28
10 is integer? True
```

In [52]:
```
#float
num=9.58
print(type(num))
print(sys.getsizeof(num),"bytes")
print(num,"is float?",isinstance(num,int))
```

```
<class 'float'>
24 bytes
9.58 is integer? False
```

In [53]:
```
#complex
num=1+2j
print(type(num))
print(sys.getsizeof(num))
print(num,"is complex",isinstance(num,complex))
```

```
<class 'complex'>
32
(1+2j) is complex True
```

In [54]:
```
num=True
```

In [55]:
```
print(type(num))
```

```
<class 'bool'>
```

In [56]:
```
isinstance(num,bool)
```

Out[56]: True

In [57]:
```
bool(1)
```

Out[57]: True

In [58]:
```
bool(0)
```

Out[58]: False

In [59]:
```
bool(False)
```

Out[59]: False

string creation

In [60]:
```
name="akshitha"
```

In [61]:
```
name="akshitha"
print(name)
print(type(name))
```

```
akshitha
<class 'str'>
```

In [64]:
```
name1='akshitha'
name2="akshitha"
name3='''akshitha'''
```

In [65]:
```
print(name1)
print(name2)
print(name3)
```

```
akshitha
akshitha
akshitha
```

In [67]:
```
name1='''akshitha
                perumandla'''
print(name1)
```

```
akshitha
                perumandla
```

In [69]:
```
name1=('happy '
      'monday '
      'everyone')
print(name1)
```

```
happy monday everyone
```

In [71]:
```
mystr2='wahoo'
mystr2=mystr2*4
print(mystr2)
```

```
wahoowahoowahoowahoo
```

In [72]:
```
name[0]
```

Out[72]: 'a'

In [77]:
```
name[len(name)-2]
```

Out[77]: 'h'

In [78]:
```
name[-1]
```

Out[78]: 'a'

string slicing

In [79]:
```
name[2:]
```

Out[79]: 'shitha'

In [80]:
```
name[2:7]
```

Out[80]: 'shith'

In [83]:
```
name[-2:]
```

Out[83]: 'ha'

In [ ]:
```

```