Primitive Data Types in Python:

- Integer
  - which is written as int
- Float
  - which is written as $float$
- String
  - which is written as str
- Boolean
  - which is written as $bool$

One Non-Primitive Data Type in Python:

- Complex
  - which is written as $complex$

There is another type of data other than primitive datatypes which is widely used in DataScience which is Complex

datatype in the below examples we will consider even this datatype.

What is Type Coversion?

The process of coversion of data type from one type to another data type is called as Type Conversion.

Type Conversion of from integer to other datatypes

```
In [30]:  num = 30
          type(num)

Out[30]:  int
```

```
In [31]:  #int to float
          float(num)

Out[31]:  30.0
```

```
In [32]:  #int to String
          str(num)

Out[32]:  '30'
```

```
In [34]:  #int to boolean
          bool(num)

Out[34]:  True
```

```
In [33]:  #int to complex
          complex(num)

Out[33]:  (30+0j)
```

Type Conversion of from float to other datatypes

```
In [35]:  num=40.34
          type(num)

Out[35]:  float
```

```
In [36]:  #float to int
          float(num)

Out[36]:  40.34
```

```
In [37]:  #float to String
          str(num)

Out[37]:  '40.34'
```

```
In [38]:  #float to boolean
          bool(num)

Out[38]:  True
```

```
In [39]:  #float to complex
          complex(num)

Out[39]:  (40.34+0j)
```

Type Conversion of from strings to other datatypes

```
In [40]:  num = 'aishu'
          type(num)

Out[40]:  str
```

In [41]:

```
#String to int
float(num)
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_12872\3151950875.py in <module>
      1 #String to int
----> 2 float(num)
      3 

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

In [42]:

```
#String to float
float(num)
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_12872\3159073119.py in <module>
      1 #String to float
----> 2 float(num)

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

In [43]:

```
#String to boolean
bool(num)
```

Out[43]:

```
True
```

In [44]:

```
#String to complex
complex(num)
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_12872\875166225.py in <module>
      1 #String to complex
----> 2 complex(num)

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

- Except for Boolean all other datatypes gave error

Type Conversion of from Boolean to other datatypes

```
In [49]:
num=True
type(num)
```

```
Out[49]: bool
```

```
In [50]:
#boolean to int
float(num)
```

```
Out[50]: 1.0
```

```
In [51]:
#boolean to String
str(num)
```

```
Out[51]: 'True'
```

```
In [52]:
#boolean to float
bool(num)
```

```
Out[52]: True
```

```
In [53]:
#boolean to complex
complex(num)
```

```
Out[53]: (1+0j)
```

Type Conversion of from Complex to other datatypes

```
In [55]:
num = 0+5j
type(num)
```

```
Out[55]: complex
```

In [56]:

```
#complex to int
float(num)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call la
st)
~\AppData\Local\Temp\ipykernel_12872\4101385341.py in <module>
      1 #complex to int
----> 2 float(num)
      3 

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

In [57]:

```
#complex to String
str(num)
```

Out[57]:

```
'5j'
```

In [58]:

```
#complex to boolean
bool(num)
```

Out[58]:

```
True
```

In [59]:

```
#complex to float
complex(num)
```

Out[59]:

```
5j
```

In [60]:

```
num = 6+5j
type(num)
```

Out[60]:

```
complex
```

In [61]:

```
#complex to int
float(num)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call la
st)
~\AppData\Local\Temp\ipykernel_12872\3603277540.py in <module>
      1 #complex to int
----> 2 float(num)

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

In [62]:

```
#complex to String
str(num)
```

Out[62]:

```
'(6+5j)'
```

In [63]:

```
#complex to boolean
bool(num)
```

Out[63]:

```
True
```

In [64]:

```
#complex to float
complex(num)
```

Out[64]:

```
(6+5j)
```

In [ ]: