Datatypes

In [1]:
```
x=15
type(x)
```

Out[1]:
```
int
```

In [2]:
```
x=15.0
type(x)
```

Out[2]:
```
float
```

In [3]:
```
x="Siddharth"
```

In [4]:
```
type(x)
```

Out[4]:
```
str
```

In [5]:
```
print(x)
```

```
Siddharth
```

In [8]:
```
course='Datascience'
print(course)
```

```
Datascience
```

In [9]:
```
course="Datascience"
print(course)
```

```
Datascience
```

In [10]:
```
z=True
type(z)
```

Out[10]:
```
bool
```

In [12]:
```
z=true
type(z)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [12], in <cell line: 1>()
----> 1 z=true
      2 type(z)

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

You can note the case sensetiveness of True and true.

True: bool.

true: will show an error.

"true" is a str.

In [13]:
```
z='True'
type(z)
```

Out[13]:
```
str
```

In [14]:
```
x=1i-3j
type(x)
```

```
  Input In [14]
    x=1i-3j
       ^
SyntaxError: invalid syntax
```

Note: In Mathematics we use i for iota but here we will use j.

In [15]:
```
x=1-3j
type(x)
```

Out[15]:
```
complex
```

Rules for naming the Variable

Variable names can start with A-Z,a-z,underscore.

It should not start with a Number.

Space is not allowed.

Case sensitive.

The only allowed special character is underscore.

In [16]:
```
_X=5
X
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Input In [16], in <cell line: 2>()
      1 _X=5
----> 2 X

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

In [*]:
```
1student_name
```

In [*]:
```
1student_name=5
print(1student_name)
```

In [*]:
```
1student_name=5
type(1student_name)
```

In [*]:
```
student-names="Sanjana","DevaRaj","Vaishnavi"
student-names
```

In [17]:
```
_X
```

Out[17]:
```
5
```

In [18]:
```
sample_list=[12,43,56,'Siddharth',1+2j,6.7]
sample_list
```

Out[18]:
```
[12, 43, 56, 'Siddharth', (1+2j), 6.7]
```

In [19]:
```
type(sample_list)
```

Out[19]:
```
list
```

Heterogeneous

In [20]:
```
sample_list[6]
```

```
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
Input In [20], in <cell line: 1>()
----> 1 sample_list[6]

IndexError: list index out of range
```

In [21]:
```
sample_list[2]=3.5
```

In [22]:
```
sample_list
```

Out[22]:
```
[12, 43, 3.5, 'Siddharth', (1+2j), 6.7]
```

List is Mutable means we can change the values of list.

In [ ]:
```

```