Date : 26th - 08 - 2020
Morning Session : 9am – 11.00 PM
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Topics: Python Basics

Variables:

Variables should be clear.

Rules of Variable names:

1) **Variable name can contain only letters , number and _**
2) **Its always start with underscores and letters but can't start with number**

```
 8 input_1 = 5
 9
10 _input = 4
11
12 2_test = 3
```

Output:

```
Practice/untitled0.py , line 1
    2_test = 3
I      ^
SyntaxError: invalid token
```

3) **Lowercase and uppercase are different . (case sensitive in python)**

```
y = 6

print(y)
print(Y)
```

Output:

```
Practice/untitled0.py", line 11, in
    print(Y)

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

Data Types: 1) Numbers, 2) Strings, 3) List , 4) Dictionary , 5) Tuple, 6) Set

1) Numbers: number contains Integers, float , Complex numbers

Example:
integer : 10, -10

```
In [1]:  x = 10
         print(type(x))

         <class 'int'>
```

Float : 10.2 , 9.5

```
In [2]:  x = 10.25
         print(type(x))

         <class 'float'>
```

Complex numbers: 2+5j, x= 3j, x + yj, where x and y are the real numbers and j is the imaginary unit.

```
In [3]:  x = 2 + 5j
         print(type(x))

         <class 'complex'>

In [4]:  x = 3j
         print(type(x))

         <class 'complex'>
```

Bool: True = 1, False = 0

```
In [6]: x = int(True)
        print(type(x))

        <class 'int'>

In [8]: x = int(False)
        print(type(x))

        <class 'int'>
```

We can convert int to float and float to int is called casting

2) String: sequence of characters in string we can use """ (triple) also

```
str  = 'hello'
str
```

```
'hello'
```

Length: it will find length of the string

```
str2 = "this is check"
len(str2)
```

```
13
```

Search index: index will start from Zero

```
str2 = "this is check"
len(str2)
```

```
13
```

```
str2[3]
```

```
's'
```

String is immutable; we can't change the string in between by the assigning into some other.

```
In [24]:  str2[3] = 'r'
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-24-ec544c38f45b> in <module>
----> 1 str2[3] = 'r'

TypeError: 'str' object does not support item assignment
```

Slicing string:

```
In [26]:  str2 = "hello there whats up"
          str2

Out[26]:  'hello there whats up'
```

```
In [27]:  str2[0:5]  -ı- s

Out[27]:  'hello'
```

```
In [ ]:
```

```
In [26]:  str2 = "hello there whats up"
          str2
```

Out[26]: 'hello there whats up'

```
In [27]:  str2[0:5] --- slicing
```

Out[27]: 'hello'

```
In [28]:  str2[2:8]
```

Out[28]: 'llo th'

```
str2[0:]
```

'hello there whats up'

```
In [32]:  str2[:4]
```

Out[32]: 'hell'

```
In [ ]:
```

Means index will from 0 to 3

```
In [34]:  str2[-1]
```

Out[34]: 'p'

Minus string means it will start from very last string