python:-

- Python is a high level ,interpreted,interacted,Object Oriented scripting language.

Charecteristic of python:-

1. Platform independent
2. Open source
3. Potable
4. Scalable
5. Dynamic typing
6. Build in data type and tools.
7. Automatic memory management

Everything in python is an object.

- Created by Guido van Rossum in 1989. First released in 1991 from netherland .

Data types in Python :-

- Numbers
- Strings
- List
- Tuple
- Dictionary
- Set
- Frozenset.

- Number:-
- Integer
- Float
- Complex

Variables:-

- Variables are nothing but reserved memory location to store values.(data types) It means that when you Crete a variable you reserved some space in the memory.

```
In [ ]:
```

Numbers data types :-

- Number data types store numeric values.
- Numbers are immutable(un changeable) data types.
- Number are not iterable.

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In [ ]:

Operators:-

- arithmetic operator
- Comparison operator
- Logical operator
- assignment operator
- Membership operator
- Identity operator
- Bitwise operator

In [ ]:

In [3]:

```python
a=45.89
b= 45
c=a-b
print(c)          ## 0.8900000000000006
print(type(a))   ##   <class 'float'>
print(type(b))    ##   <class 'int'>
V=3.4J
print(type(V))    ##     <class 'complex'>
a= 3+5j
b=6+7j
print(a+b)     ##(9+12j)


a = "this is hrkhan "
b="     hello this is hrkhan"
c= a+b
print(c)      ##this is hrkhan      hello this is hrkhan


a=9
b=2
c=a%b
d=a//b
print(c)    ## 1
print(d)    ## 4
print(2**5)   ##  32
a=5
b=7
a-=b
print(a)   ##  -2
print(b)   ## 7
a="python"
print("p"in a)    ##True
print("t"in a )    ##  True
"""importing module & library math """
import math
##print(dir(math))  ## print all directory of maths
print(math.ceil(23.4)) ## 24
print(math.floor(23.4)) ## 23
print(math.sin(0))      ##0.0
print(math.sqrt(25))    ## 5
print(math.pow(2,5))    ## 32
print(math.log10(10))   ## 1
print(math.log2(10))      ## 3.321928094887362
print(math.log(10,10))   ##   1.0
print(math.factorial(5))    ##  120
print(math.gamma(3))      ##2.0
print(math.copysign(-33,43))    ##33.0
```

```
0.8900000000000006
<class 'float'>
<class 'int'>
<class 'complex'>
(9+12j)
this is hrkhan     hello this is hrkhan
1
4
32
-2
7
True
True
24
23
0.0
5.0
32.0
1.0
3.321928094887362
1.0
120
2.0
33.0
```

In [ ]: