Day 1:Python

IDE Installation for Python

```
In [3]:  1+1
```

```
Out[3]:  2
```

```
In [4]:  # Variable

         a = 10
         # a is a variable
```

```
In [5]:  id(a) # to get the address of the value 10 stored in a
```

```
Out[5]:  1445462370896
```

```
In [7]:  type(a) # to get the type of data variable
```

```
Out[7]:  int
```

datatypes in python int bool float str complex

```
In [10]:  print(type(1))
          print(type(1.5))
          print(type(True))
          print(type('test'))
          print(type(1+7j))
          #print(type())
          #print(type())
```

```
          <class 'int'>
          <class 'float'>
          <class 'bool'>
          <class 'str'>
          <class 'complex'>
```

```
In [12]:  type(str(a))
```

```
Out[12]:  str
```

```
In [ ]:  # check the python documentation
```

```
In [13]:  test = 1+2j
```

```
In [14]:  type(test)
```

```
Out[14]:  complex
```

```
In [15]:  test.real
```

```
Out[15]:  1.0
```

```
In [16]:  test.imag
```

```
Out[16]:  2.0
```

```
In [18]:  test.conjugate()
```

```
Out[18]:  (1-2j)
```

```
In [20]:  a = 123
          b = True
```

```
In [21]:  a + b # True marked as 1, False will be 0
```

```
Out[21]:  124
```

```
In [22]:  """
          Python is a high-level, interpreted, general-purpose programming language. Its design

          Python is dynamically-typed and garbage-collected. It supports multiple programming pa

          Guido van Rossum began working on Python in the late 1980s as a successor to the ABC p

          Python consistently ranks as one of the most popular programming languages.

          """
```

```
Out[22]:  '\nPython is a high-level, interpreted, general-purpose programming language. Its des
          ign philosophy emphasizes code readability with the use of significant indentation.\n
          \nPython is dynamically-typed and garbage-collected. It supports multiple programming
          paradigms, including structured (particularly procedural), object-oriented and functi
          onal programming. It is often described as a "batteries included" language due to its
          comprehensive standard library.\n\nGuido van Rossum began working on Python in the la
          te 1980s as a successor to the ABC programming language and first released it in 1991
          as Python 0.9.0. Python 2.0 was released in 2000 and introduced new features such as
          list comprehensions, cycle-detecting garbage collection, reference counting, and Unic
          ode support. Python 3.0, released in 2008, was a major revision that is not completel
          y backward-compatible with earlier versions. Python 2 was discontinued with version
          2.7.18 in 2020.\n\nPython consistently ranks as one of the most popular programming l
          anguages.\n\n'
```

```
In [25]:  string = 'i am a Data scientist'
          string
```

```
Out[25]:  'i am a Data scientist'
```

```
In [31]:  There are ton's of opportunites
```

```
  File "C:\Users\KARTHI~1\AppData\Local\Temp/ipykernel_10712/3061120795.py", line 1
    There are ton's of opportunites
              ^
SyntaxError: invalid syntax
```

```
In [32]:  'There are ton\'s of opportunites'
```

```
Out[32]:  "There are ton's of opportunites"
```

```python
In [33]: string # Extracting data
Out[33]: 'i am a Data scientist'
```

```python
In [36]: for i in string:
             print(i,id(i)) # physical memory
```
```
i 1445465198896
  1445473348016
a 1445470783408
m 1445465110704
  1445473348016
a 1445470783408
  1445473348016
D 1445470897008
a 1445470783408
t 1445465430512
a 1445470783408
  1445473348016
s 1445465187696
c 1445465440560
i 1445465198896
e 1445470697904
n 1445465720624
t 1445465430512
i 1445465198896
s 1445465187696
t 1445465430512
```

```python
In [37]: id(string)
Out[37]: 1445574798192
```

```python
In [38]: # index starts with 0 and in reverse it starts with -1
         # the last element will not be printed if the last index is given
```

```python
In [39]: string[0:5] # 5 will not be printed 5 is a
Out[39]: 'i am '
```

```python
In [41]: string[-5:]
Out[41]: 'ntist'
```

```python
In [42]: string[-5:-1] # Slicing
Out[42]: 'ntis'
```

```python
In [43]: string[5] # indexing
Out[43]: 'a'
```

```python
In [45]: string[::3] # slicing with Step size
Out[45]: 'im tsei'
```

```
In [49]:  string[::-1] # to reverse a string without any functions
```

```
Out[49]:  'tsitneics ataD a ma i'
```

```
In [ ]:
```

LIST

Data Structures Lists Dictionary Tuples SetsArray concenpt does not exist in python but there are libraries Lists are similar to arraysLists stores heterogenous values

```
In [53]:  string[-1:-5:-1]
```

```
Out[53]:  'tsit'
```