Python Strings: ¶

- It is a group of characters.
- By using single quotes or double quotes we can define a string.
- string index starts from 0 to size-1.

In [1]:
```
# string initialization.
s1 = 'welcome to apssdc'
print(s1)
```

```
welcome to apssdc
```

In [2]:
```
s2 = "python programming"
print(s2)
```

```
python programming
```

In [3]:
```
# To find the length of string.
print(len('apssdc python'))
```

```
13
```

In [4]:
```
# To find the maximum from a string.
print(max('APSSDC'))
```

```
S
```

In [5]:
```
# To find the minimum character from a string.
print(min('APSSDC'))
```

```
A
```

In [6]:
```
# To read a string data from a user.
s1 = input('enter a string: ')
print(s1)
print(type(s1))
```

```
enter a string: apssdc
apssdc
<class 'str'>
```

In [7]:
```
# TO print the ASCII value of a given character.
print(ord('A'))
```

```
65
```

In [8]:
```
# To print a character of a given ascii value.
print(chr(65))
```

```
A
```

In [9]:
```
print(ord('%'))
```

```
37
```

In [10]:
```
# TO join two strings..
print('python'+'welcome')
```

```
pythonwelcome
```

indexing and slicing:

- 1. indexing:
  - To get the single character from a string.
  - two types of indexing:
  - A. positive indexing
  - B. negative indexing example: -6 -5 -4 -3 -2 -1 -> Negative indexing P Y T H O N 0 1 2 3 4 5 -> positive indexing

In [14]:
```
# string indexing examples..
s2 = 'python programming'
print(s2[0])# to get the first character
print(s2[-1])# to get the last character
print(s2[3])
print(s2[-3])
```

```
p
g
h
i
```

string slicing:

- to get the sequence of characters.
- [start:stop:step]

In [18]:
```
# example on slicing:
s3 = 'python programming'
print(s3[4:11])
print(s3[5:])
print(s3[::-1]) # string print in reverse order
# To print the alternative characters..
print(s3[::2])
```

```
on prog
n programming
gnimmargorp nohtyp
pto rgamn
```

string methods:

In [19]:
```
# To print the string methods.
print(dir(str))
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc__', '__eq__', '__format__', '__ge__', '__geta
ttribute__', '__getitem__', '__getnewargs__', '__gt__', '__hash__', '__init__', '__init_subclass__', '__iter__', '__le_
_', '__len__', '__lt__', '__mod__', '__mul__', '__ne__', '__new__', '__reduce__', '__reduce_ex__', '__repr__', '__rmod_
_', '__rmul__', '__setattr__', '__sizeof__', '__str__', '__subclasshook__', 'capitalize', 'casefold', 'center', 'coun
t', 'encode', 'endswith', 'expandtabs', 'find', 'format', 'format_map', 'index', 'isalnum', 'isalpha', 'isascii', 'isde
cimal', 'isdigit', 'isidentifier', 'islower', 'isnumeric', 'isprintable', 'isspace', 'istitle', 'isupper', 'join', 'lju
st', 'lower', 'lstrip', 'maketrans', 'partition', 'replace', 'rfind', 'rindex', 'rjust', 'rpartition', 'rsplit', 'rstri
p', 'split', 'splitlines', 'startswith', 'strip', 'swapcase', 'title', 'translate', 'upper', 'zfill']
```

In [20]:
```
print(dir(list))
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__delitem__', '__dir__', '__doc__', '__eq__', '__format__', '_
_ge__', '__getattribute__', '__getitem__', '__gt__', '__hash__', '__iadd__', '__imul__', '__init__', '__init_subclass_
_', '__iter__', '__le__', '__len__', '__lt__', '__mul__', '__ne__', '__new__', '__reduce__', '__reduce_ex__', '__repr_
_', '__reversed__', '__rmul__', '__setattr__', '__setitem__', '__sizeof__', '__str__', '__subclasshook__', 'append', 'c
lear', 'copy', 'count', 'extend', 'index', 'insert', 'pop', 'remove', 'reverse', 'sort']
```

In [21]:
```
# 1. capitalize() method...
s1 = 'python programming'
# To change the string first character into uppercase.
print(s1.capitalize())
```

```
Python programming
```

In [25]:
```
# 2. upper() method..
s1 = 'pythonAPSSDC'
# To convert the string into upper case.
print(s1.upper())
```

```
PYTHONAPSSDC
```

In [24]:
```
# 3. lower() method..
s1 = 'APSSDCpython'
print(s1.lower())
```

```
apssdcpython
```

In [26]:
```
# 4. title():
s1 = 'summer online internship PROGRAM'
print(s1.title())
```

```
Summer Online Internship Program
```

In [27]:
```
# 5. swapcase():
s1 = 'PYThon'
print(s1.swapcase())
```

```
pytHON
```

In [28]:
```
# 6. join()
s1 = 'python'
print('#'.join(s1))
```

```
p#y#t#h#o#n
```

In [29]:
```
# 7. replace()
# To replace with new character.
s1 = 'python programming'
print(s1.replace('p','s'))
```

```
sython srogramming
```

In [32]:
```
# find():
# To get the index position.
s1 = 'python programming'
print(s1.find('p'))
```

```
0
```

In [33]:
```
#rfind()
print(s1.rfind('p'))
```

```
7
```

In [35]:
```
#count() method.
s1 = 'python programming python'
print(s1.count('p'))
print(s1.count('python'))
```

```
3
2
```

In [37]:
```
# strip()
# To remove the white spaces from left side and right side..
s2 = "    python programming     "
print(s2.strip())
```

```
python programming
```

In [38]:
```
#lstrip()
print(s2.lstrip())
```

```
python programming
```

In [42]:
```
#rstrip():
print(s2.rstrip())
```

```
python programming
```

In [41]:
```
# spilt() method.
# To convert the string into list of words..
s1 = 'python programming for diploma andhra pradesh students'
print(s1.split())
# To count the number of words..
print(len(s1.split()))
```

```
['python', 'programming', 'for', 'diploma', 'andhra', 'pradesh', 'students']
7
```

In [44]:
```
s3 = 'apssdc123'
# isalpha()
# It will return the True or False.
print(s3.isalpha())
```

```
False
```

In [46]:
```
#isdigit()
s3 = '1234 '
print(s3.isdigit())
```

```
False
```

In [48]:
```
#isalnum():
# string having only alphanumeric
s3='abc123@'
print(s3.isalnum())
```

```
False
```

In [60]:
```
#islower():
s3 ='a 123#'
print(s3.islower())
```

```
True
```

In [58]:
```
print('123 '.islower())
```

```
True
```

In [65]:
```
#isupper():
s3 = 'ABC #123'
print(s3.isupper())
```

```
True
```

In [68]:
```
#isspace():
s3 = '   '
print(s3.isspace())
```

```
True
```

In [71]:
```
# startswith():
s3 = 'aadhyan'
print(s3.startswith('a'))
```

```
True
```

In [72]:
```
s1="Python program"
print(s1.islower())
```

```
False
```

In [73]:
```
# endswith():
s3 = 'raju'
print(s3.endswith('u'))
```

```
True
```

In [78]:
```
# To count the number of alphabets,digits,spaces,special characters from given string.
s = 'welcome pytho@123 prog$12'
a1=d=sp=spec=0
for i in s:
    if i.isalpha():
        a1 = a1+1
    elif i.isdigit():
        d = d+1
    elif i.isspace():
        sp = sp+1
    else:
        spec = spec+1
print('Alphabets count is: ',a1)
print('digit count is:',d)
print('Spaces count is:',sp)
print('Special character count is:',spec)
```

```
Alphabets count is:  16
digit count is: 5
Spaces count is: 2
Special character count is: 2
```

In [80]:
```
#1. Capitalize the first and last character of given string?
s1 = 'python programming'
# output: 'Python prohramminG'
print(s1[0].upper()+s1[1:]+s1[-1].upper())
#2. To inter change the first and last character .
s2 = 'apssdc'
# output: cpssda
print(s1[-1]+s1[1:]+s1[0])
```

```
Python programmingG
gython programmingp
```

In [ ]:
```
1
```