strings

- sting is group of characters
- strings are immutable(un changale)
- represented with '', " "

In [1]:
```
s=input('enter a value')
input(s)
type(s)
```

```
enter a value1
11
```

Out[1]:
```
str
```

In [2]:
```
s='sathish'
len(s)
```

Out[2]:
```
7
```

In [4]:
```
s[0]
```

Out[4]:
```
's'
```

In [5]:
```
s[1]
```

Out[5]:
```
'a'
```

In [8]:
```
# string substing
s[0:7]
```

Out[8]:
```
'sathish'
```

In [10]:
```
s[-1]
```

Out[10]:
```
'h'
```

In [11]:
```
dir(str)
```

Out[11]:
```
['__add__',
 '__class__',
 '__contains__',
 '__delattr__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__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',
 'count',
 'encode',
 'endswith',
 'expandtabs',
 'find',
 'format',
 'format_map',
 'index',
 'isalnum',
 'isalpha',
 'isascii',
 'isdecimal',
 'isdigit',
 'isidentifier',
 'islower',
 'isnumeric',
 'isprintable',
 'isspace',
 'istitle',
 'isupper',
 'join',
```

```
 'ljust',
 'lower',
 'lstrip',
 'maketrans',
 'partition',
 'replace',
 'rfind',
 'rindex',
 'rjust',
 'rpartition',
 'rsplit',
 'rstrip',
 'split',
 'splitlines',
 'startswith',
 'strip',
 'swapcase',
 'title',
 'translate',
 'upper',
 'zfill']
```

In [14]:
```
print (dir(str),end=' ')
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc__',
'__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__', '__getne
wargs__', '__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', 'c
enter', 'count', 'encode', 'endswith', 'expandtabs', 'find', 'format', 'forma
t_map', 'index', 'isalnum', 'isalpha', 'isascii', 'isdecimal', 'isdigit', 'is
identifier', 'islower', 'isnumeric', 'isprintable', 'isspace', 'istitle', 'is
upper', 'join', 'ljust', 'lower', 'lstrip', 'maketrans', 'partition', 'replac
e', 'rfind', 'rindex', 'rjust', 'rpartition', 'rsplit', 'rstrip', 'split', 's
plitlines', 'startswith', 'strip', 'swapcase', 'title', 'translate', 'upper',
'zfill']
```

In [20]:
```
s= 'abc1223'
s.isalpha()
```

Out[20]: False

In [21]:
```
s.islower()
```

Out[21]: True

In [22]:
```
s.isspace()
```

Out[22]: False

In [31]:
```
s1='hello ece'
s1.casefold()
```

Out[31]: 'hello ece'

In [30]:
```
s1.count('e')
```

Out[30]: 1

In [32]:
```
s1='problem solving and programming python'
s1.count('pr')
```

Out[32]: 2

In [33]:
```
s1='problem solving and programming python'
s1.count('p')
```

Out[33]: 3

In [34]:
```
s1='problem solving and programming python'
s1.count('pro')
```

Out[34]: 2

In [36]:
```
s1.find('p')
```

Out[36]: 0

In [37]:
```
s1.find('py')
```

Out[37]: 32

In [39]:
```
s.find('pn')
```

Out[39]: -1

In [40]:
```
s1='apssdc'
s2='pythons1'
s1.join(s2)
```

Out[40]: 'papssdcyapssdctapssdchapssdcoapssdcnapssdcsapssdc1'

split method

In [41]:
```
# split method
s1.split()
```

Out[41]: ['apssdc']

In [42]:
```
# split method
s1.split('s')
```

Out[42]: ['ap', '', 'dc']

In [45]:
```
s1[0]
```

Out[45]:
```
'a'
```

In [51]:
```
# split method
s1='apssdc'
s1=s1.split('s')
```

In [54]:
```
s2='hello ece'
s2[0]
```

Out[54]:
```
'h'
```

In [57]:
```
s2=s2.split(' ')
s2[0]
```

Out[57]:
```
'hello'
```

In [58]:
```
s2[0]
```

Out[58]:
```
'hello'
```

In [1]:
```
# in= 'python workshop'
# o/p = w. python
st=input('enter a value')
st=st.split()
print(st)
```

```
enter a valuepython workshop
['python', 'workshop']
```

In [9]:
```
# in= 'python workshop'
# o/p = w. python
st=input('enter a value')
st=st.split()
print(st)
print(st[0])
```

```
enter a valuepython workshop
['python', 'workshop']
python
```

In [12]:
```
# in= 'python workshop'
# o/p = w. python
st=input('enter a value')
st=st.split()
print(st[1][0]+'.',st[0])
```

```
enter a valuepython workshop
w. python
```

In [14]:
```
s='hello'
s[::-1]
```

Out[14]: 'olleh'

In [15]:
```
s='hello'
s[::2]
```

Out[15]: 'hlo'

In [19]:
```
# strip - to remove unwanted spaces
s1='hello world'
s1.strip()
```

Out[19]: 'hello world'

In [20]:
```
s1.title()
```

Out[20]: 'Hello World'

In [21]:
```
s1.swapcase()
```

Out[21]: 'HELLO WORLD'

In [22]:
```
s1='HELLO WORLD'
s1.swapcase()
```

Out[22]: 'hello world'

data structure in python

- lists
- tuples
- dictionaries
- sets

lists

- list is collection of data of different types
- list are mutable
- represented with [] ,comma seperated values

In [23]:
```
li=[]
type(li)
```

Out[23]: list

In [31]:
```
li=[1,2,3,4,'a','abc']
li[0]
```

Out[31]: 1

In [32]:
```
len(li)
```

Out[32]: 6

In [33]:
```
li[-1]
```

Out[33]: 'abc'

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

Out[34]: ['abc', 'a', 4, 3, 2, 1]

In [45]:
```
li1=[1,2,3,4,5,]
print(max(li1))
print(min(li1))
print(sum(li1))
```

```
5
1
15
```

In [46]:
```
print(dir(list),end='')
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__delitem__', '__dir
__', '__doc__', '__eq__', '__format__', '__ge__', '__getattribute__', '__geti
tem__', '__gt__', '__hash__', '__iadd__', '__imul__', '__init__', '__init_sub
class__', '__iter__', '__le__', '__len__', '__lt__', '__mul__', '__ne__', '__
new__', '__reduce__', '__reduce_ex__', '__repr__', '__reversed__', '__rmul_
_', '__setattr__', '__setitem__', '__sizeof__', '__str__', '__subclasshook_
_', 'append', 'clear', 'copy', 'count', 'extend', 'index', 'insert', 'pop',
'remove', 'reverse', 'sort']
```

In [51]:
```
l1=[1,2,3,'a','b','c']
l1.append(5)
print(l1)
```

```
[1, 2, 3, 'a', 'b', 'c', 5]
```

In [52]:
```
l2=[1,2,3,'a','b','c']
l1.append(5)
print(l1)
```

```
[1, 2, 3, 'a', 'b', 'c', 5, 5]
```

In [ ]:
```

```