

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

```
In [ ]:
```

```
In [2]: s="diwakar"
```

```
In [3]: s[0]
```

```
Out[3]: 'd'
```

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

```
Out[5]: 'i'
```

```
In [6]: dir(str),
```

```
Out[6]: (['__add__',
          '__class__',
          '__contains__',
          '__delattr__',
          '__dir__',
          '__doc__',
          '__eq__',
          '__format__',
          '__ge__',
          '__getattr__',
          '__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 [7]: `print(dir(str),end='')`

```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc__',
'__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__', '__getnewa
rgs__', '__gt__', '__hash__', '__init__', '__init_subclass__', '__iter__', '__l
e__', '__len__', '__lt__', '__mod__', '__mul__', '__ne__', '__new__', '__reduce
__', '__reduce_ex__', '__repr__', '__rmod__', '__rmul__', '__setattr__', '__siz
eof__', '__str__', '__subclasshook__', 'capitalize', 'casefold', 'center', 'cou
nt', 'encode', 'endswith', 'expandtabs', 'find', 'format', 'format_map', 'inde
x', 'isalnum', 'isalpha', 'isascii', 'isdecimal', 'isdigit', 'isidentifier', 'i
slower', 'isnumeric', 'isprintable', 'isspace', 'istitle', 'isupper', 'join',
'ljust', 'lower', 'lstrip', 'maketrans', 'partition', 'replace', 'rfind', 'rind
ex', 'rjust', 'rpartition', 'rsplit', 'rstrip', 'split', 'splitlines', 'startsw
ith', 'strip', 'swapcase', 'title', 'translate', 'upper', 'zfill']
```

In [ ]:

In [8]: `s='abc1223'`  
`s.isalpha`

Out[8]: `<function str.isalpha()>`

In [9]: `s.isdigit()`

Out[9]: `False`

In [10]: `s.isnumeric`

Out[10]: `<function str.isnumeric()>`

```
In [4]: s= 'hello ece'  
s.str.capitalize( )
```

```
-----  
AttributeError                                Traceback (most recent call last)  
<ipython-input-4-111896fe9ae5> in <module>  
      1 s= 'hello ece'  
----> 2 s.str.capitalize( )  
  
AttributeError: 'str' object has no attribute 'str'
```

```
In [17]: s1='hello world'  
s1.casefold
```

```
Out[17]: <function str.casefold()>
```

```
In [19]: s2='HELLO ECE'  
s1.lower()
```

```
Out[19]: 'hello world'
```

```
In [20]: s2.center(10)
```

```
Out[20]: 'HELLO ECE '
```

```
In [21]: s2.count('e')
```

```
Out[21]: 0
```

```
In [22]: s2.center(15)
```

```
Out[22]: '  HELLO ECE  '
```

```
In [30]: s1='problem solving and programming python'  
s1.count('p')
```

```
Out[30]: 0
```

```
In [13]: s1[2]='a'
```

```
In [10]: s1='apssdc'  
s2='python'  
s1.join(s2)
```

```
Out[10]: 'papssdcyapssdctapssdchapssdcoapssdcn'
```

```
In [11]: # split method
s1.split('s')
```

```
Out[11]: ['ap', '', 'dc']
```

```
In [12]: # split method
s1='apssdc'
s1=s1.split('s')
```

```
In [46]: s1[0]
```

```
Out[46]: 'a'
```

```
In [49]: s2='hello ece'
s2[0]
```

```
Out[49]: 'h'
```

```
In [50]: s2=s2.split(' ')
s2
```

```
Out[50]: ['hello', 'ece']
```

```
In [51]: s2[0]
```

```
Out[51]: 'hello'
```

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

```
In [57]: len(st)
```

```
Out[57]: 1
```

```
In [2]: s='hello'
s[::-1]
```

```
Out[2]: 'olleh'
```

```
In [4]: s='hello'
s[:1]
```

```
Out[4]: 'h'
```

```
In [7]: s='s  stars students'  
s.endswith('s')
```

Out[7]: True

```
In [15]: #strip - to remove unwanted space  
s1='hello world'  
s1.strip()
```

Out[15]: 'hello world'

```
In [16]: s1.title()
```

Out[16]: 'Hello World'

```
In [17]: s1.swapcase()
```

Out[17]: 'HELLO WORLD'

```
In [19]: s1='HELLO woRLD'  
s1.swapcase()
```

Out[19]: 'he11o w0rld'

## data structure in python

- lists
- tuples
- dictionaires
- sets

## lists

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

```
In [20]: li=[]  
type(li)
```

Out[20]: list

```
In [25]: li=[1,2,3,4,5,'a','abc']  
li[0]
```

Out[25]: 1

```
In [26]: len(li)
```

```
Out[26]: 7
```

```
In [27]: li[::-1]
```

```
Out[27]: ['abc', 'a', 5, 4, 3, 2, 1]
```

```
In [33]: lil=[1,2,3,4,5,]  
print(max(lil))  
print(min(lil))  
print(sum(lil))
```

```
5  
1  
15
```

```
In [36]: print(dir(list),end='')
```

```
['__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__', '__setat  
tr__', '__setitem__', '__sizeof__', '__str__', '__subclasshook__', 'append', 'c  
lear', 'copy', 'count', 'extend', 'index', 'insert', 'pop', 'remove', 'revers  
e', 'sort']
```

```
In [45]: 12=['abc',1,4]  
11.append(12)  
11
```

```
File "<ipython-input-45-1738c1d4c4bf>", line 1
```

```
12=['abc',1,4]
```

```
^
```

```
SyntaxError: can't assign to literal
```

```
In [46]: 11
```

```
Out[46]: 11
```

```
In [56]: l2=[1,2,3,'a','b','c']  
l1.append(5)  
print(l1)
```

```
-----  
NameError                                Traceback (most recent call last)  
<ipython-input-56-340bc53ffa6e> in <module>  
      1 l2=[1,2,3,'a','b','c']  
----> 2 l1.append(5)  
      3 print(l1)  
  
NameError: name 'l1' is not defined
```

```
In [57]: 12
```

```
Out[57]: 12
```

```
In [58]: l1=[1,2,3,'a','b','c']  
l1.append(5)  
print(l1)
```

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

```
In [71]: l1
```

```
Out[71]: [1, 2, 3, 'a', 'b', 'c', 5, 5]
```

```
In [64]: l1.count(6)
```

```
Out[64]: 0
```

```
In [66]: l1.index(5)
```

```
Out[66]: 6
```

```
In [68]: l2=[1,2,3,'a','b','c']  
l1.append(5)  
print(l1)
```

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

```
In [72]: l1.count(1)
```

```
Out[72]: 1
```

```
In [73]: s='apssdc'  
s[0]  
s=s.split('s')  
print(s)
```

```
['ap', '', 'dc']
```



```
In [76]: s='apssdc'
s[0]
#s[0]='h'
s=s.split('s')
print(s)
print(s[0])
s[1]='h'
print(s)
```

```
['ap', '', 'dc']
ap
['ap', 'h', 'dc']
```

```
In [77]: l1[1]
```

```
Out[77]: 2
```

```
In [10]: l=[1,9,2,0,3,89]
l.sort()
l
```

```
Out[10]: [0, 1, 2, 3, 9, 89]
```

```
In [15]: l=[1,6,7,7]
l.reverse()
l
```

```
Out[15]: [7, 7, 6, 1]
```

```
In [16]: l.sort(reverse=True)
l
```

```
Out[16]: [7, 7, 6, 1]
```

```
In [18]: l.clear()
l
```

```
Out[18]: []
```

```
In [ ]:
```