LIST

Join two lists
```
>>> [1]+[2,3]
[1,2,3]
```

Index out of boundary
```
>>> test = [1,2,3]
>>> test[4:]
[]
```

Reverse a list
```
list[::-1]
list.reverse()
```

whether inverse value is the same
```
all(val==val[::-1] for val in integers)
```

Join elements by '-' in the list
```
'-'.join(temp)
```

Print two lines
```
>>> print('a\nb')
a
b
```

Convert string/input to int
```
arr = list(map(int, input().split()))

>>> list(map(int,['2','3']))
[2, 3]
```

Insert value in list (index,value)
```
>>> test = [1,3]
>>> test.insert(2,4)
>>> test.insert(10,4)
>>> test
[1,3,4,4]
```

Count value in list
```
>>> test.count(1)
1
```

Get index in list
```
>>> test.index(3)
0
```

Append a list to a list
```
list.extend(seq)
```

Pop the last item / we can also identify value by index
```
>>> test
[1, 3, 1]
>>> test.pop()
1
```

Delete elements based on index
```
del list[2]
```

Remove one element in the list / remove the first one
```
>>> test = [1,2,3]
>>> test.remove(2)
>>> test
[1, 3]
```

Looping till all 1's are removed
```
while (list1.count(1)):
    list1.remove(1)
```

TUPLE

make a tuple
```
1. tuple(a_list)
2. (1,2,3)
```

STRING

Uppercase the first letter and lowercase the rest
```
Str.title()
str.capitalize()
```

get 26 letters
```
>>> import string
>>> string.ascii_lowercase
'abcdefghijklmnopqrstuvwxyz'
```

Fill with --
```
Str.center(width, fillchar)
>>> 'sdfsadf'.center(15,'-')
'----sdfsadf----'
```

Split by ' '
```
'xxxx'.split()
```

Split word to characters
```
List(str)
```

Reverse string
```
'abc'[::-1]
```

Check alpha and digit
```
Str.isalnum()
Str.isalnum()
Str.isdigit()
```

remove space
```
str.strip()
```

cannot use index to change elements in a string

DICTIONARY

```
dict.update(dict2)

unlike use dict[key], when using get no
error
dict.get(key, default = None)

del dict['Name']; # remove entry with
key 'Name'

# remove all entries in dict
dict.clear()

# delete entire dictionary
del dict

dict.keys()
dict.values()
dict.items()
```

```
dict.has_key('Age')
```

NUMBER

```
math.ceil( x )
math.floor( x )

>>> divmod(5,2)
(2, 1)
```

MAP

```
Instead of using loop

1.
# Return double of n
def addition(n):
    return n + n

# We double all numbers using map()
numbers = (1, 2, 3, 4)
result = map(addition, numbers)
print(list(result))

2.
numbers1 = [1, 2, 3]
numbers2 = [4, 5, 6]

result = map(lambda x, y: x + y,
numbers1, numbers2)
print(list(result))
```

SET

```
>> a = {2, 4, 5, 9}
>> b = {2, 4, 11, 12}
>> a.union(b) # Values which exist in a
or b
{2, 4, 5, 9, 11, 12}
>> a.intersection(b) # Values which
exist in a and b
{2, 4}
>> a.difference(b) # Values which exist
in a but not in b
{9, 5}
```

```
>>> s = set('HackerRank')
>>> s.add('H')
>>> print s
set(['a', 'c', 'e', 'H', 'k', 'n', 'r',
'R'])

s.remove(value)

subset
x = {"a", "b", "c"}
y = {"f", "e", "d", "c", "b", "a"}
x.issubset(y)
True

import collections
a = [1,1,1,1,2,2,2,2,3,3,4,5,5]
counter=collections.Counter(a)
```