# iterations(loops)

- 2 types in python

```
  - for
# syntax in c
for(i=0;<con;i++/i--){
    stmts/condition
}
# syntax in python
for i in range(n):
     stmts /condition
  - while
    while con:
        stmts
        or
        initialization
        condition
        inc/dec
```

# list of built in functions

```
In [1]: dir(__builtins__)
```

```
Out[1]: ['ArithmeticError',
         'AssertionError',
         'AttributeError',
         'BaseException',
         'BlockingIOError',
         'BrokenPipeError',
         'BufferError',
         'BytesWarning',
         'ChildProcessError',
         'ConnectionAbortedError',
         'ConnectionError',
         'ConnectionRefusedError',
         'ConnectionResetError',
         'DeprecationWarning',
         'EOFError',
         'Ellipsis',
         'EnvironmentError',
         'Exception',
         'False',
         'FileExistsError',
         'FileNotFoundError',
         'FloatingPointError',
         'FutureWarning',
         'GeneratorExit',
         'IOError',
         'ImportError',
         'ImportWarning',
         'IndentationError',
         'IndexError',
         'InterruptedError',
         'IsADirectoryError',
         'KeyError',
         'KeyboardInterrupt',
         'LookupError',
         'MemoryError',
         'ModuleNotFoundError',
         'NameError',
         'None',
         'NotADirectoryError',
         'NotImplemented',
         'NotImplementedError',
         'OSError',
         'OverflowError',
         'PendingDeprecationWarning',
         'PermissionError',
         'ProcessLookupError',
         'RecursionError',
         'ReferenceError',
         'ResourceWarning',
         'RuntimeError',
         'RuntimeWarning',
         'StopAsyncIteration',
         'StopIteration',
         'SyntaxError',
         'SyntaxWarning',
         'SystemError',
         'SystemExit',
```

```
'TabError',
'TimeoutError',
'True',
'TypeError',
'UnboundLocalError',
'UnicodeDecodeError',
'UnicodeEncodeError',
'UnicodeError',
'UnicodeTranslateError',
'UnicodeWarning',
'UserWarning',
'ValueError',
'Warning',
'WindowsError',
'ZeroDivisionError',
'__IPYTHON__',
'__build_class__',
'__debug__',
'__doc__',
'__import__',
'__loader__',
'__name__',
'__package__',
'__spec__',
'abs',
'all',
'any',
'ascii',
'bin',
'bool',
'breakpoint',
'bytearray',
'bytes',
'callable',
'chr',
'classmethod',
'compile',
'complex',
'copyright',
'credits',
'delattr',
'dict',
'dir',
'display',
'divmod',
'enumerate',
'eval',
'exec',
'filter',
'float',
'format',
'frozenset',
'get_ipython',
'getattr',
'globals',
'hasattr',
'hash',
```

```
            'help',
            'hex',
            'id',
            'input',
            'int',
            'isinstance',
            'issubclass',
            'iter',
            'len',
            'license',
            'list',
            'locals',
            'map',
            'max',
            'memoryview',
            'min',
            'next',
            'object',
            'oct',
            'open',
            'ord',
            'pow',
            'print',
            'property',
            'range',
            'repr',
            'reversed',
            'round',
            'set',
            'setattr',
            'slice',
            'sorted',
            'staticmethod',
            'str',
            'sum',
            'super',
            'tuple',
            'type',
            'vars',
            'zip']
```

In [3]: `range(10)`

Out[3]: range(0, 10)

In [5]: `range(5,10)`

Out[5]: range(5, 10)

In [8]:
```python
n=10
for i in range(1,n+1):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
```

In [11]:
```python
n=10
for i in range(0,n+1):
    print(i,end=',')
```

```
0,1,2,3,4,5,6,7,8,9,10,
```

In [10]:
```python
n=10
for i in range(1,n+1):
    print(i,end=' ')
```

```
1 2 3 4 5 6 7 8 9 10
```

In [3]:
```python
a=20
for i in range(1,a):
    print(i,end=',')
```

```
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,
```

In [ ]: