

```

# -*- coding: utf-8 -*-
"""
Created on Sat Oct 10 19:21:01 2015
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Reference: https://docs.python.org/3/tutorial/index.html
"""

print ()

# The for statement in Python differs a bit from what you may be used to.
# Rather than always iterating over an arithmetic progression of numbers, or
# giving you the ability to define both the iteration step and halting
# condition, Python's for statement iterates over the items of any iterable
# sequence (such as a list, tuple, or string), in the order that they appear
# in the sequence

words = ['cat', 'dog', 'cow', 'parrot', 'hamster', 'goat']
for w in words:
    print (w, len(w))

print ()

# The range function generates arithmetic prgogressions

# range(n) -> 0,...,n-1 in increments of 1
for i in range(5):
    print (i, end=',')
print ()

# range(m,n) -> m,...,n-1 in increments of 1
# if m >= n, returns nothing
for i in range(3,10):
    print (i, end=',')
print ()

# counts in positive increments if n > m, and k is positive
# range(m,n,k) -> m,...,<=n-1 in increments of k
for i in range(3,10,2):
    print (i, end=',')
print ()

# counts in negative increments if n < m, and k is negative
# range(m,n,k) -> m,...,>=n+1 in increments of k
for i in range(10,-30,-5):
    print (i, end=',')
print ()

words = ['jane', 'john', 'mark', 'harry', 'mike', 'ed']
wordlist = []
for i in range(len(words)):
    wordlist.append([i, words[i]])
print (wordlist)

print ()

# Note: The object returned by range() behaves as if it is a list,

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*# but in fact it isn't. It is an object which returns the successive items of  
# the desired sequence when you iterate over it, but it doesn't really make  
# the list, thus saving space.*

```
r = range(0, 20, 2)
print (r)
print (list(r))
print (11 in r)
print (r.index(10))
print (r[5])
print (r[:5])
print (r[-1])
```

```
print ()
```

*# Testing range objects for equality with == and != compares them as sequences.  
# That is, two range objects are considered equal if they represent the same sequence  
# of values*

```
print (range(0) == range(2, 1, 3))
```

```
print ()
```

*# test*

```
for i in range():
    print (i, end=',')
print()
```

```
for i in range(10):
    print (i, end=',')
print()
```

```
for i in range(0,-10):
    print (i, end=',')
print()
```

```
for i in range(0,-10,-2):
    print (i, end=',')
print ()
```