Create a tuple and hold device information

```
from pprint import pprint

# Open the file and read in the single line of device info
file = open('devices','r')
file_line = file.readline().strip()

print 'read line: ', file_line # Print out the line I just read

# 'split()' will provide is with a python list, which we convert to a tuple
device_info = tuple(file_line.split(','))

pprint(device_info) # Print out the tuple with nice formatting

file.close() # Be a good steward of resources and close the file
```

```
read line: device1,ios,10.3.21.5,user1,pass1
('device1', 'ios', '10.3.21.5', 'user1', 'pass1')
```

Create a list of tuples and hold device information about multiple devices

Create a text file that has information about multiple devices, as follows:

```
device1,ios,10.3.21.5,user1,pass1
device2,ios,10.3.21.6,user2,pass2
device3,nx-os,10.3.21.7,user3,pass3
device4,nx-os,10.3.21.8,user4,pass4
device5,ios-xr,10.3.21.9,user5,pass5
device6,ios-xr,10.3.21.10,user6,pass6
```

```
from pprint import pprint

devices = [] # Create the outer list for all devices

file = open('devices','r')
for line in file:

    device_info = tuple(line.strip().split(',')) # Get device info into tupl

    # Print out what we have read and built so far
    print 'device_info: ', device_info

    # Now append our device and its info onto our 'devices' list
    devices.append(device_info)

# Done with all lines in the file; now print the results

pprint(devices)

file.close() # Close the file since we are done with it
```

```
device_info:  ('device1', 'ios', '10.3.21.5', 'user1', 'pass1')
device_info:  ('device2', 'ios', '10.3.21.6', 'user2', 'pass2')
device_info:  ('device3', 'nx-os', '10.3.21.7', 'user3', 'pass3')
device_info:  ('device4', 'nx-os', '10.3.21.8', 'user4', 'pass4')
device_info:  ('device5', 'ios-xr', '10.3.21.9', 'user5', 'pass5')
device_info:  ('device6', 'ios-xr', '10.3.21.10', 'user6', 'pass6')
[('device1', 'ios', '10.3.21.5', 'user1', 'pass1'),
 ('device2', 'ios', '10.3.21.6', 'user2', 'pass2'),
 ('device3', 'nx-os', '10.3.21.7', 'user3', 'pass3'),
 ('device4', 'nx-os', '10.3.21.8', 'user4', 'pass4'),
 ('device5', 'ios-xr', '10.3.21.9', 'user5', 'pass5'),
 ('device6', 'ios-xr', '10.3.21.10', 'user6', 'pass6')]
```

Create a dictionary of named tuples which hold device information

```
from collections import namedtuple
from pprint import pprint

Dev_info = namedtuple('Dev_info',['name', 'os', 'ip', 'user', 'password'])

devices = {}

file = open('devices','r')
for line in file:
    device_info = Dev_info(*(line.strip().split(',')))
    print 'Device Information: ', device_info
    devices[device_info.name] = device_info

pprint(devices)
file.close()
```

Create a set of all the OS types present for the list of devices read from a file

```
from collections import namedtuple
from pprint import pprint

Dev_info = namedtuple('Dev_info',['name', 'os_type', 'ip', 'user', 'password

os_types = set()

file = open('devices','r')
for line in file:

    device_info = Dev_info(*(line.strip().split(',')))
    print 'Device Information: ', device_info

    if device_info.os_type not in os_types:
        os_types.add(device_info.os_type)

pprint(os_types)
file.close()
```

```
Device Information:  Dev_info(name='device1', os='ios', ip='10.3.21.5', user
Device Information:  Dev_info(name='device2', os='ios', ip='10.3.21.6', user
Device Information:  Dev_info(name='device3', os='nx-os', ip='10.3.21.7', us
Device Information:  Dev_info(name='device4', os='nx-os', ip='10.3.21.8', us
Device Information:  Dev_info(name='device5', os='ios-xr', ip='10.3.21.9', u
Device Information:  Dev_info(name='device6', os='ios-xr', ip='10.3.21.10', 
set(['ios', 'ios-xr', 'nx-os'])
```