Create a List to Hold Device Information

Touch myfile
Nano myfile

```
cisco@ubuntu:~$ cat myfile
device1, ios, 10.3.21.5, user1, pass1
```

```
cisco@ubuntu:~$ cat reader-list.py
from pprint import pprint

device_info = []

file = open('myfile','r')
file_line = file.readline().strip()

device_info = file_line.split(',')

pprint(device_info)

file.close()
```

Create a dictionary to hold device information

```
cisco@ubuntu:~$ cat reader-dictionary.py
from pprint import pprint

file = open('myfile','r')
file_line = file.readline().strip()

device_list = file_line.split(',')

device_info = {}

device_info['name'] = device_list[0]
device_info['os-type'] = device_list[1]
device_info['ip'] = device_list[2]
device_info['username'] = device_list[3]
device_info['password'] = device_list[4]

pprint(device_info)

file.close()
```

Create a list of dictionaries to hold device information about multiple devices

*** Placement of space/tab are relevant for processing within python file

```
from pprint import pprint

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

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

    device_info_list = line.strip().split(',') # Get device info into list

    # Put device information into dictionary for this one device
    device_info = {} # Create the inner dictionary of device info
    device_info['name'] = device_info_list[0]
    device_info['os-type'] = device_info_list[1]
    device_info['ip'] = device_info_list[2]
    device_info['username'] = device_info_list[3]
    device_info['password'] = device_info_list[4]

    # 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
```

Create a dictionary of dictionaries

```
from pprint import pprint

devices = {} # Create the outer dictionary for all devices

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

    device_info_list = line.strip().split(',') # Get device info into list

    # Put device information into dictionary for this one device
    device_info = {} # Create the inner dictionary for device info
    device_info['name'] = device_info_list[0]
    device_info['os-type'] = device_info_list[1]
    device_info['ip'] = device_info_list[2]
    device_info['username'] = device_info_list[3]
    device_info['password'] = device_info_list[4]

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

    # Now place our device and its info onto our 'devices' dictionary
    devices[device_info['name']] = (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
```

Create a dictionary of lists of dictionaries to hold device info about multiple devices, based on OS-Type for each device

```
from pprint import pprint

# For simplicity we will create our outer dictionary and lists
devices = {} # Create the outer dictionary for all OS-types
devices['ios'] = []     # Create initial empty list of devices
devices['nx-os'] = []   # Create initial empty list of devices
devices['ios-xr'] = []  # Create initial empty list of devices

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

    device_info_list = line.strip().split(',') # Get device info into list

    # Put device information into dictionary for this one device
    device_info = {} # Create the inner dictionary for device info
    device_info['name'] = device_info_list[0]
    device_info['os-type'] = device_info_list[1]
    device_info['ip'] = device_info_list[2]
    device_info['username'] = device_info_list[3]
    device_info['password'] = device_info_list[4]

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

    # Now place our device and its info onto the correct list of devices,
    # , in our main OS-type dictionary, based on the device's OS-type.
    devices[device_info['os-type']].append(device_info)

# Done with all lines in the file; now print the results
pprint(devices)
```