Find, Modify, Add, Delete Items in Dictionary

Find by key:

```
ip_address = dev1['ip']  # get IP address
```

Add or modify by key:

```
dev1['version'] = 'A.01.12'  # modify version number
dev1['OS'] = 'NX-OS'         # add new field for 'OS'
```

Delete by key:

```
del dev1['OS']   # delete item located at 'OS'
```

The real value of a dictionary is to immediately find a specific item, by specifying only the key. You used square brackets in lists to reference a specific item by its integer index. You will use key values in the same way for dictionaries.

Consider the following request to get the reference to a specific item in the 'dev1' dictionary that was defined earlier:

```
ip_address = dev1['ip']  # get IP address
```

This request 'finds' the value that is associated with the key 'ip', and returns the value associated with the key. Hence the value now in the ip_address variable would be:

```
'10.3.21.5'
```

Add a new item to the dev1 dictionary:

```
dev1['OS'] = 'NX-OS'         # add new field for 'OS'
```

Modify an existing item in the dev1 dictionary:

```
dev1['version'] = 'a.01.12'  # modify version number
```

Deleting items is similarly straightforward:

```
del dev1['OS']   # delete item located at 'OS'
```

You may want to test to see if a key is in a dictionary, called a test of 'inclusion'. You can perform this test using the 'in' comparison operator:

```
if 'OS' in dev1:
# take whatever action you desire
```

The above 'if' statement tests to see if the key 'OS' is in the dev1 dictionary. If present, it takes the action specified in the following code block.