

Algorithm for file updates in Python

Project description

This program defines an algorithm for updating a text file using Python

Open the file that contains the allow list

The file we want to open is called “allow_list.txt”. We’ll assign it to a variable named “import_file”

```
import_file = "allow_list.txt"  
with open(import_file, "r") as file:
```

This will open the file we wish to use inside the with statement.

Read the file contents

Now we’ll have Python read the contents of the file. This line of code will be indented, because it is inside the with statement. We’ll assign the read contents of the file to a variable named `ip_addresses`.

```
    ip_addresses = file.read()
```

Convert the string into a list

In order to work with the contents of the file for updating, we need to convert its contents into a list that we can modify.

```
ip_addresses = ip_addresses.split()
```

This will convert the contents of the string into a list, with a space separating each entry.

Iterate through the remove list

Now we need to remove contents of the list `ip_addresses` based on the contents of the remove list, which we will assign as a variable named `remove_list`. We’ll also set up the header of the for loop which will cycle through the list `ip_addresses`.

```
remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40",  
"192.168.58.57"]  
for element in ip_addresses:
```

Remove IP addresses that are on the remove list

Within the for loop, we'll remove any ip addresses that are defined in the list `remove_list`

```
    if element in remove_list:  
        ip_addresses.remove(element)
```

Update the file with the revised list of IP addresses

Now we'll update the file with the new list ip addresses. We'll first convert the list back into a string with the `.join()` function and then use another with statement to write to the file.

```
ip_addresses = "\n".join(ip_addresses)  
with open(import_file, "w") as file:  
    file.write(ip_addresses)
```

Summary

This simple algorithm can easily automate the rewriting of files. A combination of file read, write, split, join and a for loop will automate what would normally be a time consuming task. The full program will be shown here:

```
import_file = "allow_list.txt"  
remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40",  
"192.168.58.57"]  
with open(import_file, "r") as file:  
    ip_addresses = file.read()  
ip_addresses = ip_addresses.split()  
for element in ip_addresses:  
    if element in remove_list:  
        ip_addresses.remove(element)  
ip_addresses = "\n".join(ip_addresses)  
with open(import_file, "w") as file:  
    file.write(ip_addresses)
```

Of course, this example is for modify the contents of a file that contains IP addresses. However, the code can be modified to suit any need for rewriting a file.