Algorithm for file updates in Python

Project description

As a security professional at a health care company, I am responsible for maintaining an allow list of employee IP addresses that are permitted to access restricted patient records. There is also a remove list of IP addresses that I need to revoke access for by taking them off the allow list. My task is to create a Python algorithm that checks if the allow list contains any of the IP addresses that are on the remove list. If there are any matches, my algorithm needs to remove those IP addresses from the file containing the allow list. This will ensure that the employees on the remove list can no longer access the restricted patient records. I will need to revisit a previous lab I completed to get screenshots to include in my portfolio document for this project.

Open the file that contains the allow list

```
3]: #First I store the txt file to a variable:
    import_file = "allow_list.txt"
    #Then i open the file to read the txt
    with open(import_file) as file:
```

Read the file contents

content. Python provides tools for complex tasks

```
n [14]: #First I store the txt file to a variable:
        import_file = "allow_list.txt"
        #Then i open the file to read the txt

        remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40", "192.168.58
        with open(import_file, "r") as file:
            ip_addresses = file.read()
```

```
In [ ]:
```

Convert the string into a list

```
#I must convert the str to list using split function
ip_addresses =  ip_addresses.split()
```

Iterate through the remove list

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

Remove IP addresses that are on the remove list

```
remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40", "192.168.58
for i in remove_list:
    if i in ip_addresses:
        ip_addresses.remove(i)
```

Update the file with the revised list of IP addresses

```
#I must convert the str to list using sp
ip_addresses =  ip_addresses.split()

remove_list = ["192.168.97.225", "192.16
for i in remove_list:
    if i in ip_addresses:
        ip_addresses.remove(i)

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

Summary

I created a Python algorithm to update an IP address allow list file. It converts the file to a list, iterates through a removal IP list, compares the addresses, removes invalid ones, then updates the file with the new valid address list after converting it back to a string. I utilized Python functions like open(), .read(), and .remove() to manipulate the file and lists.