Algorithm for file updates in Python

Project description

The purpose of this project is to identify employees who can access restricted content. The contents of the file are based on who is working with personal patient records. Employees are restricted access based on their IP address. There is an allow list for IP addresses permitted to sign into the restricted subnetwork. There's also a remove list that identifies which employees you must remove from this allow list.

Code

```
|: # Define a function named `update_file` that takes in two parameters: `import_file` and `remove_list`
   # and combines the steps you've written in this lab leading up to this

   def update_file(import_file, remove_list):

     # Build `with` statement to read in the initial contents of the file

     with open(import_file, "r") as file:

       # Use `.read()` to read the imported file and store it in a variable named `ip_addresses`

       ip_addresses = file.read()

     # Use `.split()` to convert `ip_addresses` from a string to a list

     ip_addresses = ip_addresses.split()

     # Build iterative statement
     # Name loop variable `element`
     # Loop through `ip_addresses`

     for element in ip_addresses:

       # Build conditional statement
       # If current element is in `remove_list`,

       if element in remove_list:

         # then current element should be removed from `ip_addresses`

         ip_addresses.remove(element)

     # Convert `ip_addresses` back to a string so that it can be written into the text file

     ip_addresses = " ".join(ip_addresses)
```

```
  with open(import_file, "w") as file:

    # Rewrite the file, replacing its contents with `ip_addresses`

    file.write(ip_addresses)

# Call `update_file()` and pass in "allow_list.txt" and a list of IP addresses to be removed

update_file("allow_list.txt",["192.168.25.60", "192.168.140.81", "192.168.203.198"])

# Build `with` statement to read in the updated file

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

  # Read in the updated file and store the contents in `text`

  text = file.read()

# Display the contents of `text`

print(text)
```

```
ip_address 192.168.205.12 192.168.6.9 192.168.52.90 192.168.90.124 192.168.186.176 192.168.133.188 192.168.218.219 192.168.52.3
7 192.168.156.224 192.168.60.153 192.168.69.116
```

Summary

The above code is a user defined function that opens a file that contains employee ip addresses and reads the contents of the file to be compared with the removed list of now restricted ip addresses. The file is then updated to contain only the approved ip address of employees. Creating this as a user defined function will allow for reusability when this task needs to happen again. Note that variables will need to be updated for the appropriate file names and list.