Project Description

This Python script automates the process of updating the IP address allow list in a healthcare setting.

It identifies and removes any IP addresses from the allow list that appear in the remove list,

ensuring that only authorized users can access restricted content.

The algorithm reads the allow list from a file, compares it with a remove list, and updates the file as needed.

Step 1: Open the file that contains the allow list

import_file = 'allow_list.txt'

Using a with statement to ensure the file is properly closed after being opened

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

    ip_addresses = file.read()

Step 2: Read the file contents

Converting the contents to a string to facilitate further processing

ip_addresses = ip_addresses.strip()

Step 3: Convert the string into a list

Using the split method to separate the IP addresses by new line

ip_addresses = ip_addresses.split('\n')

Example remove list (in a real scenario, this would come from a separate file or input)

remove_list = ['192.168.1.10', '192.168.1.20']

Step 4: Iterate through the remove list

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for element in remove_list:
    # Step 5: Remove IP addresses that are on the remove list
    if element in ip_addresses:
        ip_addresses.remove(element)

# Step 6: Update the file with the revised list of IP addresses
# Converting the list back into a string with newline separation
updated_ips = '\n'.join(ip_addresses)

# Writing the updated list back to the file
with open(import_file, 'w') as file:
    file.write(updated_ips)

# Summary
# The algorithm efficiently updates the allow list by identifying and removing IP addresses listed in the remove list.
# It leverages file handling using with statements, list manipulation with split() and remove(), and ensures proper
# file closure. The final updated allow list is saved back to the original file.
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