Portfoleo project: Algorythm for file updates in Python

Algorithm for file updates in Python

Project description

this script automates management of an ip allowlist. the allowlist is in a file, and the script reads and writes to file.

Open the file that contains the allow list

```
import_file = "allow_list.txt"


# Assign `remove_list` to a list of IP addresses that are no longer allowed to access restricted information.


remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40", "192.168.58.57"]


# First line of `with` statement to open the file and store as variable file


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

Read the file contents

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

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

  ip_addr = file.read()
```

Convert the string into a list

```
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("\n")

# Display `ip_addresses`

print(ip_addresses)
```

Iterate through the remove list

```
for element in ip_addresses:

    # Display `element` in every iteration

    print(element)
```

Remove IP addresses that are on the remove list

```
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)
        # add to ips renmoved list

  # Display `ip_addresses`

print(ip_addresses)
```

Update the file with the revised list of IP addresses

```python
# Assign `import_file` to the name of the file

import_file = "allow_list.txt"

# Assign `remove_list` to a list of IP addresses that are no longer allowed to access restricted information.

remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40", "192.168.58.57"]

# 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
```

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

# Build `with` statement to rewrite the original file

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

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

    file.write(ip_addresses)
```

Final

create the allow-list as a file

```python
# Assign `import_file` to the name of the file

import_file = "allow_list.txt"
allow_list = """ip_address
192.168.25.60
192.168.205.12
192.168.97.225
192.168.6.9
192.168.52.90
192.168.158.170
192.168.90.124
192.168.186.176
192.168.133.188
192.168.203.198
192.168.201.40
192.168.218.219
192.168.52.37
192.168.156.224
192.168.60.153
192.168.58.57
192.168.69.116"""
# Assign `remove_list` to a list of IP addresses that are no longer allowed to access restricted information.

remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40", "192.168.58.57"]
```

```python
# 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_addr = file.read()

temp_file = "task_3_remove_list.txt"
import_file = temp_file

with open(import_file, "w") as import_file:
    import_file.write(ip_addr)



# Display `ip_addresses`

print(ip_addr)
```

modify and prune the allow-list

```python
# Assign `import_file` to the name of the file

import_file = "allow_list.txt"

# Assign `remove_list` to a list of IP addresses that are no longer allowed to access restricted information.

remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40", "192.168.58.57"]

# 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
```

```python
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)

# Build `with` statement to rewrite the original file

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

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

  file.write(ip_addresses)

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

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

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

    text = file.read()

# Display the contents of `text`
```

```
print(text)
```

Summary

in a hypothetical scenario where you needed to remove information from a large file this could save alot of time. this can save you lots of time.

Revision #5
Created 28 December 2023 17:59:28 by naruzkurai
Updated 2 January 2024 22:15:18 by naruzkurai