

Algorithm for file updates in Python

Project description

Update file that identifies the employees who can access restricted content.

Open the file that contains the allow list

After declaring the variables “import_file” and “remove_list”, the file assigned to “import_file” was opened to be read.

```
Entrée [2]: # 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"]

# First line of `with` statement
with open(import_file, "r") as file:
```

Read the file contents

The method “.read()” was used to read the imported file and store it in the variable “ip_addresses”.

```
Entrée [4]: # 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()

# Display `ip_addresses`
print(ip_addresses)

ip_address
192.168.25.60
192.168.205.12
192.168.97.225
```

Convert the string into a list

The type of “ip_addresses” is converted into a list.

```

Entrée [5]: # 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()

# Display `ip_addresses`
print(ip_addresses)

['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',

```

Iterate through the remove list

A for loop is created to iterate over each element in the “ip_addresses” 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()

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

for element in ip_addresses:
    # Display `element` in every iteration
    print(element)

```

```

ip_address
192 168 25 60

```

Remove IP addresses that are on the remove list

Using the for loop created before, the variable “remove_file” is used to identify and remove the not allowed IP addresses from “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)

# Display `ip_addresses`

print(ip_addresses)

```

```

['ip_address', '192.168.25.60', '192.168.205.12', '192.168.6.9', '192.168.52.90', '192.168.90.124', '192.168.186.176',
'192.168.133.100', '192.168.202.100', '192.168.210.200', '192.168.50.200', '192.168.150.200', '192.168.20.150', '192.16

```

Update the file with the revised list of IP addresses

The file assigned to “import_file” is updated with the file just changed.

```

    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)

```

Summary

The allow-list of IP addresses was updated using Python code.