# Algorithm for file updates in Python

## Project description

This program defines a function called update\_file that updates a text file (allow\_list.txt) by removing certain IP addresses listed in a separate list. After the update, it prints the file's new contents to verify the changes.

## Open the file that contains the allow list

#### **Function Definition**

def update\_file(import\_file, remove\_list):

The function is defined with two parameters:

* import\_file: the name of the file containing the list of allowed IP addresses.
* remove\_list: a list of IP addresses that should be removed from the file.

with open(import\_file, "r") as file:

This line of code will open our file, in this case, “allow\_list.txt”.

## Read the file contents

ip\_addresses = file.read()

The file is opened in read mode, and its entire content is stored as a **string** in the variable ip\_addresses.

## Convert the string into a list

ip\_addresses = ip\_addresses.split()

The string is split into a **list of IP addresses**, separated by whitespace or newlines, using .split().

## Iterate through the remove list and remove IP addresses that are on the remove list

for element in ip\_addresses:

if element in remove\_list:

ip\_addresses.remove(element)

The code loops through the list and removes any IP that is found in the remove\_list with the variable element.

## Update the file with the revised list of IP addresses

ip\_addresses = " ".join(ip\_addresses)

The updated list is converted back into a string, with IPs separated by spaces, to prepare it for writing into the file.

with open(import\_file, "w") as file:

file.write(ip\_addresses)

The file is reopened in write mode ("w") and overwritten with the new content, now without the removed IPs.

with open("allow\_list.txt", "r") as file:

text = file.read()

print(text)

The updated file is read again, and its contents are printed to confirm the changes.

## Summary

This script automates the cleanup of an IP address list stored in a file. It removes any IPs found in a "removal list", updates the file, and prints the new list. It’s useful for access control tasks in cybersecurity or network management.