# Algorithm for file updates in Python

## Project description

Create an algorithm using Python to compare the allow list and remove list, and remove any IP addresses that show up in both.

## Open the file that contains the allow list

import\_file = “allow\_list.txt”

with open(import\_file, “r”) as file:

The first line here is simply assigning a variable to the txt file, which allows me to call back to it later without using the entire file name.

The second line uses a with statement which allows me to open the file when I need it, and automatically close it after I am done. “r” specifies that I want to read the file. The as statement saves the content of the text file as a variable.

## Read the file contents

ip\_addresses = file.read()

print(ip\_addresses)

The first line uses the read method to convert the allow list into a string and store it in a variable called ip\_addresses.

The second line simply prints the variable.

## Convert the string into a list

print(ip\_addresses.split())

This line of code takes the long string produced by reading the file and splits it into a list of multiple strings. There is a split every time a whitespace shows up, such as a space.

## Iterate through the remove list

for element in remove\_list:

print(element)

Here I use a for loop to iterate through the remove list, meaning it will print each element of list individually.

## Remove IP addresses that are on the remove list

if element in allow\_list:

file.remove(element)

This is a conditional statement that checks to see if an element from the remove list is in the allow list. If it is, the element is removed from the allow list.

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

ip\_addresses = “\n”.join(ip\_addresses)

with open(import\_file, “w”) as file:

file.write(ip\_addresses)

The first line here converts the new ip\_addresses list back into a string using the join method, while “\n” separates each element onto its own line.

The second line uses a with statement and the write method to write over the file assigned to the import\_file variable.

## Summary

In this scenario, I was successfully able to use Python in order to create an algorithm that compared the remove\_list against the allow\_list, and removed any IP addresses that were found in both from the allow\_list. There are a few main components in this algorithm. First are the with statements which allowed me to open and manipulate the file. Also, the remove method is a crucial step that allowed me to take out the IP addresses from both lists.