# Algorithm for file updates in Python

## Project description

Task is to create an algorithm that uses Python code to check whether the allow list contains any IP addresses identified on the remove list. If so, you should remove those IP addresses from the file containing the allow list.

## 

## Open the file that contains the allow list

First task it to open text file “allow\_list.txt”. For It we **will** use with statement and **open()** method. Obraz zawierający tekst, zrzut ekranu, wyświetlacz, Czcionka

Opis wygenerowany automatycznie

**with** statement is used to manage errors and external resources. It is often used with file handling because it automatically closes file after using it.

**open(“file\_name”, “option”)** is used to open file in Python.

We have options like:

* “w” – write to file and replace its content
* “r” – read file
* “a” write to file and append new content to the end of file.

**file** – it is variable containing file content used while in with statement

## Read the file contents

To read file we will use **file.read()** method

Obraz zawierający tekst, zrzut ekranu, Czcionka

Opis wygenerowany automatycznie

## Convert the string into a list

Now we will convert read contents to list to use it further in our algorithm. We will use for it .**split()** method that builds list out of string data. Obraz zawierający tekst, zrzut ekranu, Czcionka, numer

Opis wygenerowany automatycznie

## Iterate through the remove list

Now that we prepared data in our program. We must iterate through remove\_list. For it we will use **For** statement that is used to create loop.

Obraz zawierający tekst, zrzut ekranu, Czcionka, numer

Opis wygenerowany automatycznie

## Remove IP addresses that are on the remove list

Now we will remove IP addresses that are on remove list from our Ip\_addresses list.

Obraz zawierający tekst, elektronika, zrzut ekranu, Czcionka

Opis wygenerowany automatycznie

**.remove()** is method used to remove elements from the list.

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

Final stage of algorithm is to update file using previously used **open()** and **with** statement

Obraz zawierający tekst, zrzut ekranu, Czcionka, linia

Opis wygenerowany automatycznie

We use **.join()** method to join contents of list into one string to prepare it before we write it to the text file.

We also applied **“ \n”** to the join method to create new lines between ip addresses to improve readability.

## Summary

Final stage to complete algorithm is to define function and put all these instructions inside of it. This allows us to have ability to reuse this algorithm in the future without repeating it and wasting some precious time.

Obraz zawierający tekst, zrzut ekranu, Czcionka

Opis wygenerowany automatycznie

We define **update\_file** function with parameters import\_file and remove\_list.

In the bottom we run example of code that will execute this function using “allow\_list.txt” and some removed ip addresses.

Obraz zawierający tekst, oprogramowanie, zrzut ekranu

Opis wygenerowany automatycznie

As we can see our program removed Ip addresses that were in remove\_list. Program successfully performed task and updated our file without restricted ip addresses.