# Algorithm for file updates in Python

## Project description

I am a security professional working at a health care company and am obligated to do a regular security check that identifies which employees should be allowed access to restricted content. Employees are restricted access based on their IP address. By understanding this, I am tasks to create an algorithm that uses code to check if a user is allowed access based on their IP address, and if not, to remove the unwanted employee from having further access to the restricted content.

## Open the file that contains the allow list

The first part of the code that I did, was to assign my “allow\_list.txt” to a variable named import\_file.

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And leading into that I wanted to open that file into a readable format so I used a “with” statement to open the file.

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## Read the file contents

In order to read the contents of the file I used the following code:

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## Convert the string into a list

When reading the file, it gives all the Ip address but in a string format, and we want to change that so it becomes a list. By doing this I must change my code by using the “.split()” method to convert the ip\_addresses into a list:

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## Iterate through the remove list

Now that I have my entire list of Ip addresses, I now want to integrate the remove list component of my code. My algorithm involves iterating through the IP addresses that are elements in the remove\_list. So I used a for loop:

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## Remove IP addresses that are on the remove list

Finally I have my list of IP addresses that I must remove and I also have the list of IP addresses I must remove them from. Now that remains is creating the code to remove addresses from the original code in my code.

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

Finally, I built my code to remove certain addresses from the allow\_list and now I will want to update the list now that I have removed certain IP\_addresses with my latest code. In order to do this I wrote the following code:

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This shows my code from the very beginning and now with the latest code at the very end. After my for loop code, I wanted to change my iterable list and concatenates its every element back into a string. In order to do this I used the “.join(ip\_addresses)” and since it was now replaced with new information, I used “with open” yet again but with “w” as a file, to change the contents to where I was able to overwrite the file with the new ip\_address.

## Summary

In summary, I created a coded algorithm that removed the unwanted Ip\_addresses indentified in the remove\_list variable from the “allow\_list.txt” file of the approved IP address. I discussed and explained the following code with the intention behind it, and had to overcome difficulties such as converting this string to a list, creating a iterative code using the for loop, and once again changing the form of the file – a list back to a string, and then rewriting the file with the correct information.