

## **2- Finding-files problem**

I used the os library and find\_files function which has for loops to iterate in all folders.

```
path_elements = os.listdir(path)
```

This will take  $O(n)$  time to visit all element

```
path_files = [file for file in path_elements if ('.' + suffix) in file]
```

This will take  $O(n)$  time to visit all element

```
path_folder = [folder for folder in path_elements if '.' not in folder]
```

This will take  $O(n)$  time to visit all element

for folder in path\_folder:

This will take  $O(n)$  time to visit all element

```
path_files.extend(find_files(suffix=suffix, path=path + '/' + folder))
```

This will take  $O(1)$  time to extend

Timecomplexity

**$O(n) = O(n+n+n+n+1) = O(n)$**

Space complexity  $O(n)$  n is number of folders

Note: I couldn't get how can I test the invalid path.