

Problem 2 - File Recursion Description

Finding Files

For this problem, the goal is to write code for finding all files under a directory (and all directories beneath it) that end with ".c"

Here is an example of a test directory listing, which can be downloaded [here](#):

```
./testdir
./testdir/subdir1
./testdir/subdir1/a.c
./testdir/subdir1/a.h
./testdir/subdir2
./testdir/subdir2/.gitkeep
./testdir/subdir3
./testdir/subdir3/subsubdir1
./testdir/subdir3/subsubdir1/b.c
./testdir/subdir3/subsubdir1/b.h
./testdir/subdir4
./testdir/subdir4/.gitkeep
./testdir/subdir5
./testdir/subdir5/a.c
./testdir/subdir5/a.h
./testdir/t1.c
./testdir/t1.h
```

Python's `os` module will be useful—in particular, you may want to use the following resources:

`os.path.isdir(path)`

`os.path.isfile(path)`

`os.listdir(directory)`

`os.path.join(...)`

Note: `os.walk()` is a handy Python method which can achieve this task very easily. However, for this problem you are not allowed to use `os.walk()`.

Here is some code for the function to get you started:

```
def find_files(suffix, path):  
    """  
    Find all files beneath path with file name suffix.  
  
    Note that a path may contain further subdirectories  
    and those subdirectories may also contain further subdirectories.  
  
    There are no limit to the depth of the subdirectories can be.  
  
    Args:  
        suffix(str): suffix if the file name to be found  
        path(str): path of the file system  
  
    Returns:  
        a list of paths  
    """  
    return None
```

OS Module Exploration Code

```
## Locally save and call this file ex.py ##  
  
# Code to demonstrate the use of some of the OS modules in python  
  
import os  
  
# Let us print the files in the directory in which you are running this script  
print (os.listdir("."))  
  
# Let us check if this file is indeed a file!  
print (os.path.isfile("./ex.py"))  
  
# Does the file end with .py?  
print ("./ex.py".endswith(".py"))
```

