**OS Module**

OS or Operating System module is a default module which comes with python software.
OS module provides the functions to communicate with operating system (OR) python program performs the functions of operating system using OS module.

OS module or functions of OS module are operating system dependent.

**os.name**
The name of the operating system dependent module imported. The following names have currently been registered: 'posix', 'nt', 'java'.

Posix  UNIX
Nt  Windows
Java  Solaries

```
>>> import os
>>> os.name
'nt'
```

**os.getcwd()**
Return a string representing the current working directory.

```
# Program to find current working directory

import os
f=open("file1.txt","w")

path=os.getcwd()
```

```
print(path)
```

**Output**

```
E:\python7amdec23
```

**os.chdir(*path*)**

Change the current working directory to *path*.

```
# Program to change current working

import os

os.chdir("e:\\New folder\\")
f=open("file1.txt","w")
path=os.getcwd()
print(path)
```

**Output**

```
e:\New folder
```

**os.mkdir(path)**

Create a directory named path.

**# Program to create a directory/folder**

```
import os

dname=input("Directory Name/Folder Name ")
os.mkdir(dname)
print("Directory or Folder is created ")
os.chdir(dname)
```

```
f=open("file1.txt","w")
print("file is created ...")
```

**Output**

```
Directory Name/Folder Name folder2
Directory or Folder is created
file is created ...
```

**os.rmdir(*path*)**

Remove (delete) the directory *path*. If the directory does not exist or is not empty, a FileNotFoundError or an OSError is raised respectively

```
# Program to remove to folder or directory

import os

dname=input("Directory Name or Folder Name ")
try:
   os.rmdir(dname)
   print("Folder or Directory is Deleted...")
except FileNotFoundError:
   print("folder name not found")
except OSError:
   print("folder is not empty")
```

**Output**

```
Directory Name or Folder Name folder1
Folder or Directory is Deleted...

Directory Name or Folder Name folder2
```

folder is not empty

Directory Name or Folder Name folder3
folder name not found

**shutil.rmtree(path)**
Delete an entire directory tree

```
# Program to remove to folder ro directory structure

import shutil

dname=input("Folder Name or Directory Name ")
try:
    shutil.rmtree(dname)
    print("Deleted complete directory structure")
except FileNotFoundError:
    print("folder name not exists")
```

**Output**
Folder Name or Directory Name folder1
folder name not exists

Folder Name or Directory Name folder2
Deleted complete directory structure

**os.listdir(path='.')**
Return a list containing the names of the entries in the directory given by path. The list is in arbitrary order, and does not include the special entries '.' and '..' even if they are present in the directory

**Example:**

```
# Listing content of directory

import os

list1=os.listdir()
print(list1)
list2=os.listdir(".") # current directory or folder
print(list2)
list3=os.listdir("..") # parent directory or folder
print(list3)
list4=os.listdir("c:\\windows")
print(list4)
```

**Output**

'$RECYCLE.BIN', 'app.log', 'bootTel.dat', 'captcha.png', 'D Drive Data', 'Desktop', 'desktop data', 'django.png', 'django1.png', 'django2.jpg', 'emp.csv', 'employee.csv', 'error.log', 'file1.txt', 'file2.ser', 'found.000', 'FSP5pmJAN', 'FSP6pmJan', 'iris.json']

**os.path module**

This module implements some useful functions on pathnames

**os.path.exists(*path*)**

Return True if *path* refers to an existing path or an open file descriptor. Returns False.

```
# Program to find given path exists or not (OR) Program to find given name(filename
# or foldername) exists or not

import os.path
```

```
p=input("Enter Filename or FolderName ")
if os.path.exists(p):
    print("Exists")
else:
    print("Not Exists")
```

**Output**

```
Enter Filename or FolderName e:\\django.png
Exists

Enter Filename or FolderName abc
Not Exists

Enter Filename or FolderName c:\\windows
Exists
```

**os.path.isfile(*path*)**

Return True if *path* is an existing regular file

**os.path.isdir(*path*)**

Return True if *path* is an existing directory

**Example:**

```
# Program to find input name is regular file or directory/folder

import os.path

name=input("Enter Path Name ")
if os.path.isfile(name):
    print("given name is file")
else:
```

```
    print("given name is folder or directory")
```

**Output**

```
Enter Path Name c:\\windows
given name is folder or directory

Enter Path Name e:\\django.png
given name is file
```

**Example:**

```
# Program to count files and folders exists in given folder/path

import os
import os.path

name=input("Folder Name ")
if os.path.exists(name):
    if os.path.isdir(name):
        os.chdir(name)
        list1=os.listdir()
        fc,dc=0,0
        for fname in list1:
            if os.path.isfile(fname):
                fc+=1
            else:
                dc+=1
        print(f'Files {fc}')
        print(f'Folders {dc}')
    else:
        print("given name is not folder")
else:
    print("Folder name not exists")
```

**Output**

Folder Name c:\\windows
Files 25
Folders 82