Python OS Module Overview

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# 1. Importing the OS Module

The `os` module provides functions to interact with the operating system. Before using any of its functions, import the module:

import os

# 2. File and Directory Operations

The `os` module provides various functions to work with files and directories.

## 2.1 Get Current Working Directory (getcwd())

The `getcwd()` function returns the current working directory.

Example:  
import os  
print(os.getcwd()) # Output: The current working directory

## 2.2 List Files in a Directory (listdir())

The `listdir()` function lists all the files and directories in the specified directory.

Example:  
import os  
print(os.listdir('.')) # Output: List of files and folders in the current directory

## 2.3 Create a New Directory (mkdir())

The `mkdir()` function creates a new directory.

Example:  
import os  
os.mkdir('new\_folder') # Creates a directory named 'new\_folder'

## 2.4 Remove a Directory (rmdir())

The `rmdir()` function removes an empty directory.

Example:  
import os  
os.rmdir('new\_folder') # Removes the directory named 'new\_folder'

# 3. File Path Operations

## 3.1 Check if Path Exists (path.exists())

The `os.path.exists()` function checks if a file or directory exists at the specified path.

Example:  
import os  
print(os.path.exists('file.txt')) # Output: True if the file exists, otherwise False

## 3.2 Join Paths (path.join())

The `os.path.join()` function joins one or more path components.

Example:  
import os  
path = os.path.join('folder', 'file.txt')  
print(path) # Output: 'folder/file.txt'

## 3.3 Split File Name and Extension (path.splitext())

The `os.path.splitext()` function splits the file name and extension.

Example:  
import os  
file\_name, file\_extension = os.path.splitext('file.txt')  
print(file\_name) # Output: 'file'  
print(file\_extension) # Output: '.txt'

# 4. Environment Variables

## 4.1 Get Environment Variable (getenv())

The `getenv()` function retrieves the value of an environment variable.

Example:  
import os  
path = os.getenv('PATH')  
print(path) # Output: The value of the PATH environment variable

## 4.2 Set Environment Variable (putenv())

The `putenv()` function sets the value of an environment variable. Note: This function may not be available on all platforms.

Example:  
import os  
os.putenv('MY\_VAR', 'my\_value') # Sets an environment variable MY\_VAR