1. To what does a relative path refer?

Ans1

A relative path refers to the path to a file or directory relative to the current working directory. It specifies the location of the file or directory relative to the directory in which the user is currently located.

2. What does an absolute path start with your operating system?

Ans2

The format of an absolute path depends on the operating system being used. In general, an absolute path starts with the root directory of the file system, which is represented by a forward slash ("/") on Unix-based systems (such as Linux and macOS) and by a drive letter followed by a colon (e.g., "C:") on Windows systems.

3. What do the functions os.getcwd() and os.chdir() do?

Ans3

The functions os.getcwd() and os.chdir() are part of the Python standard library's os module, and they are used to manipulate the current working directory of a Python program.

os.getcwd(): This function returns a string that represents the current working directory of the Python program. The term "working directory" refers to the directory in which the program is currently executing. When you run a Python program, it is executed in a specific directory, which is considered the "working directory" for that program.

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4. What are the . and .. folders?

Ans4

Unix-based systems and Windows, the . and .. folders are special directories that represent the current directory and the parent directory, respectively.

The . directory: In Unix-based systems, the . directory represents the current directory, which is the directory in which the user is currently working. This directory is also known as the "current working directory". In Windows, the . directory is equivalent to the current directory, but it is not often used as explicitly as in Unix.

The .. directory: The .. directory represents the parent directory, which is the directory that contains the current directory. In other words, it represents the directory one level up in the directory hierarchy.

5. In C:\bacon\eggs\spam.txt, which part is the dir name, and which part is the base name?

Ans5

Directory name: C:\bacon\eggs

Base name: spam.txt

6. What are the three “mode” arguments that can be passed to the open() function?

Ans6

the open() function is used to open a file and returns a file object. The function takes two arguments: the file path, and the mode in which the file should be opened. The mode argument is a string that specifies how the file should be opened, and it can have one of the following three values:

r: This mode opens the file for reading, and returns a file object. If the file does not exist, it raises a FileNotFoundError. This mode is used to read the contents of an existing file.

w: This mode opens the file for writing, and returns a file object. If the file already exists, it will be truncated to zero length. If the file does not exist, it will be created. This mode is used to write data to a file and possibly create it if it does not exist.

a: This mode opens the file for appending, and returns a file object. If the file already exists, data is written to the end of the file. If the file does not exist, it will be created. This mode is used to add new data to an existing file, without overwriting its contents.

7. What happens if an existing file is opened in write mode?

Ans7

If an existing file is opened in write mode ('w'), the contents of the file will be truncated (i.e., deleted), and the file pointer will be positioned at the beginning of the file. In other words, if the file already contains data, that data will be erased, and if you write any data to the file, it will overwrite the previous contents.

8. How do you tell the difference between read() and readlines()?

Ans8

read(): This method reads the entire contents of the file as a single string, and returns it. If you don't pass any arguments to the method, it will read the entire contents of the file. Alternatively, you can specify the number of characters to read as an argument. For example, file.read(10) will read the first 10 characters of the file.

readlines(): This method reads all the lines of the file and returns them as a list of strings, where each string represents a single line. If you don't pass any arguments to the method, it will read all the lines of the file. Alternatively, you can specify the maximum number of lines to read as an argument.

9. What data structure does a shelf value resemble?

Ans9

The values stored in a shelf resemble a dictionary, but with the added benefits of lazy loading and persistent storage.