Assignment 9:

## Q1

A relative path refers to the path of a file or directory relative to the current working directory or another reference point. It specifies the location of a file or directory relative to the current location rather than specifying the complete path from the root directory. Relative paths are useful when referring to files or directories within the same project or directory structure without the need to specify the complete path from the root directory.

## Q2

My OS = MacOS

On the Mac operating system, an absolute path starts with a forward slash (/). The forward slash represents the root directory of the file system.

## Q3

The functions os.getcwd() and os.chdir() are part of the os module in Python and are used for working with the current working directory.

os.getcwd(): This function returns a string representing the current working directory. It returns the path of the directory from which the script is being executed.

os.chdir(): This function is used to change the current working directory to the specified path. It takes a string argument path which represents the new directory to be set as the current working directory.

## Q4

In file systems, the . and .. folders are special entries that represent relative directories.

. : This represents the current directory. It is used to refer to the directory itself.

.. : This represents the parent directory. It is used to refer to the directory one level above the current directory.

## Q5

In the file path C:\bacon\eggs\spam.txt:

The directory name (dir name) is C:\bacon\eggs. It refers to the path of the directory that contains the file.

The base name is spam.txt. It refers to the name of the file itself, without the directory path.

## Q6

The three "mode" arguments that can be passed to the open() function in Python are:

"r": This mode is used for reading from a file. It opens the file in read-only mode, and if the file does not exist, it raises a FileNotFoundError.

"w": This mode is used for writing to a file. It opens the file in write mode, creates a new file if it doesn't exist, or truncates the file if it exists. If the file already exists, its contents will be overwritten.

"a": This mode is used for appending to a file. It opens the file in append mode, creating a new file if it doesn't exist. If the file exists, new data will be added to the end of the file.

## Q7

If an existing file is opened in write mode ("w"), the file's contents will be completely overwritten. Opening a file in write mode truncates the file to zero length before writing new data to it. If the file does not exist, a new file with the specified name will be created.

## Q8

read(): This method reads the entire contents of a file as a single string. It reads from the current position in the file until the end of the file. The resulting string includes all the characters in the file, including newline characters ('\n').

readlines(): This method reads the contents of a file line by line and returns a list of strings, where each string represents a line from the file. The newline characters ('\n') are included in each line. This method is useful when we want to process the file line by line or when we need to access individual lines.

## Q9

A shelf value resembles a dictionary value. It has keys and values, along with keys() and values() methods that work similarly to the dictionary methods of the same names.