Introduction to Globbing

Globbing: It is the operation that recognizes the patterns and does the job of file path expansion.

When we work with files and directories, we can provide wildcards or patterns to match certain files and directories.
Such as

* (Asterisk): List contents of files inside every directory starting with hello and any number after it.

```Bash
$ ls hello*
    📁 hello1:

    📁 hello2:

    📁 hello3:
```

! (Negation): List all contents of directories excluding a certain one.

```Bash
$ ls hello[!1]
    📁 hello2:

    📁 hello3:
```

[3-4] (Ranges): List all the contents of a file lying in a particular range

```Bash
$ ls hello[2-3]
    📁 hello2:

    📁 hello3:
```

*.c (Extension): List all the files that end with a **.c** extension.

```Bash
$ ls *.c
    C example.c   C sample.c
```

*[!.c] (Negation combined with extension): List all the files except a certain pattern

```bash
$ ls *[!.c]                                                    Bash
      backup3

   📁 hello1:

   📁 hello2:

   📁 hello3:
```

NOTE: Such operations can be performed using commands like `rm -rf` as well

Introduction to archiving and compressing

What is the difference between archiving and compressing?

Archiving is the process of combining one or more files into one single file format, for portability purposes
If we have two files called `file1.txt` and `file2.txt`, archiving will cause these files to become one single file and its size with be equal to the sum of the sizes of the files.
`file1.txt` -> 1kB
`file2.txt` -> 3kB
Resulting archived file: `file3.tar` -> 1kB + 3kB = 4kB

Compressing is the process of compressing one single file into a file that uses much less space.
If we have multiple files that we want to compress, we must first archive it to make it one file and then compress it.
After compressing the aforementioned `file3.tar`, we get `file3.tar.gz`.
`.tar`: Indicates the files have been archived using `tar`.
`.gz`: Indicates the file has been compressed using `gzip` (gunzip).