**Challenge 5: Compressing and Extracting Files**

When dealing with files or directories of larger sizes, it is often convenient to compress the files for transfer or for storage purposes. Files can be compressed individually or packaged together in an archive for ease of transfer. There are many different types of compression techniques, each having their own advantages and disadvantages.

**Step By Step Guide:**

* Open up a terminal and change directories to your Documents directory.
* Create a new directory called test.
* Change directories into the new test directory.
* Call a command to list all running processes on your system and redirect the output into a file called file1.
* Copy file1 into a new file called file2.
* View and compare the file sizes. Are they the same?
* Copy file2 into a file called file3.
* Compress file2 using gzip.
* Compress file3 using a new compression method bzip2.
* View and compare the file sizes. Are they the same?
* Decompress file2.
* Decompress file3.
* View and compare the file sizes. Are they the same?
* Compress file2 using gzip.
* View the file size.
* Compress it again using bzip2.
* View the file size.
* Compress it again using gzip.
* View the file size.
* Decompress the file until you have the original file back.

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* Create an archive of all three files together.
* Move the archive to your desktop.
* Change directories to your Desktop.
* List the contents of the tar archive.
* Unpack the archive.
* Display the contents of the Desktop directory to verify the files are correct.
* Remove the archive.
* Remove the files.
* Remove the test directory.