Archiving and Compression – Practical Questions

1. Create a directory named `myproject` and add three sample files inside it. Then create a tar archive of the directory named `myproject.tar`.

2. Extract the `myproject.tar` archive into a new directory called `myproject_extract`.

3. Create a file named `log.txt`, add some content, and compress it using `gzip`.

4. Decompress the file `log.txt.gz`.

5. Create a compressed `.tar.gz` archive of the `myproject` directory.

6. Compress a file named `report.txt` using `bzip2`.

7. Extract the contents of a `.tar.gz` file without creating a new directory.

8. Extract a `.tar.bz2` archive named `backup.tar.bz2`.

9. Create a compressed archive using `xz` compression for a directory named `mydata`.

10. List the contents of the archive `project.tar` without extracting it.

11. Create a tar archive of multiple files: `file1`, `file2`, and `file3`.

12. Compress all `.log` files in the current directory into a single archive called logs.tar.gz.

Hard Link and Soft Link – Practical Questions

13. Create a file named `main.txt` and create a hard link named `main_hardlink`.

14. Use a command to verify that `main.txt` and `main_hardlink` have the same inode number.

15. Delete `main.txt` and verify that `main_hardlink` still contains the file data.

16. Create a file named `config.txt` and create a soft link named `config_symlink`.

17. Use a command to check the target of the symbolic link `config_symlink`.

18. Delete the original file `config.txt` and try to open `config_symlink`. What happens?

19. Create a soft link to a directory named `project` and name it `project_link`.

20. Compare the behavior of hard links and soft links when the original file is removed.