

System Programming Lab Quiz

1. Write a command using ``cat`` to concatenate two files, ``file1.txt`` and ``file2.txt``, and display the output on the terminal.
2. What command would you use with ``ls`` to display the last modification time of all files in the current directory?
3. Using ``mkdir``, create a directory named ``docs`` and a subdirectory inside it called ``manuals``.
4. Write a command to add execute permission for the owner of a file named ``run.sh``.
5. How would you use ``chown`` to change the ownership of a file ``project.c`` to a user named ``developer``?
6. Use the ``file`` command to determine the type of the file ``data.bin``.
7. Write a command using ``chmod`` to set the following permissions on ``example.txt``: Owner: Read and Write, Group: Read, Others: No Permission.
8. Display the first 15 lines of a file ``notes.txt`` using ``cat``.
9. Write a command using ``ls`` to list all files and directories in the ``/usr`` directory in reverse alphabetical order.
10. Using ``chgrp``, change the group ownership of a file ``report.log`` to ``team``.
11. Create the following directory structure in a single command:
projects
├── python
└── cpp
12. Write a command sequence to perform the following:
 - Create a file named ``summary.txt``.
 - Change its ownership to the user ``manager``.
 - Change its group to ``staff``.
 - Remove write permissions for others.
13. How would you list only directories in the current working directory using the ``ls`` command?
14. Use the ``chmod`` command to set permissions on a script ``deploy.sh`` such that:
 - The owner has all permissions.

- Group members can only execute it.
- Others have no permissions.

15. Display all files in the `/home/user` directory with their sizes in human-readable format using `ls`.

16. A directory named `secure_data` has the following issues:

- Files inside it are owned by `root`. Change ownership of all files to the user `admin`.
- The group of the directory should be set to `users`.
- Files should have permissions set to 640, and directories to 750. Write the required commands.

17. Combine the `cat` and redirection operators to create a new file `merged.txt` that contains the contents of `file1.txt` and `file2.txt`.

18. List all files in `/var/log` modified within the last 7 days using the `ls` command.

19. A file `config.sh` has incorrect permissions (it is not executable). Write a command to make it executable for the owner and group members.

20. Write a script that:

- Checks if a directory `backup` exists in the current directory.
- If it doesn't exist, create it and set its permissions to `700`.
- Inside the `backup` directory, create a file `log.txt` and append the message 'Backup initialized.'