CADT
Cambodia Academy of Digital Technology

FILE AND DIRECTORY MANAGEMENT PROGRAM

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overview of the project

Objective:

- A Bash script program designed for efficient file and directory management.
- Provides various functionalities such as listing files, creating backups, counting files, checking disk usage, searching, and compressing files.
- Maintains a log file (script.log) for tracking actions performed by users.

Features

- File and Directory Listing
- Backup Creation
- File Counting
- Disk Usage Display
- File Search
- Compression
- Log Tracking

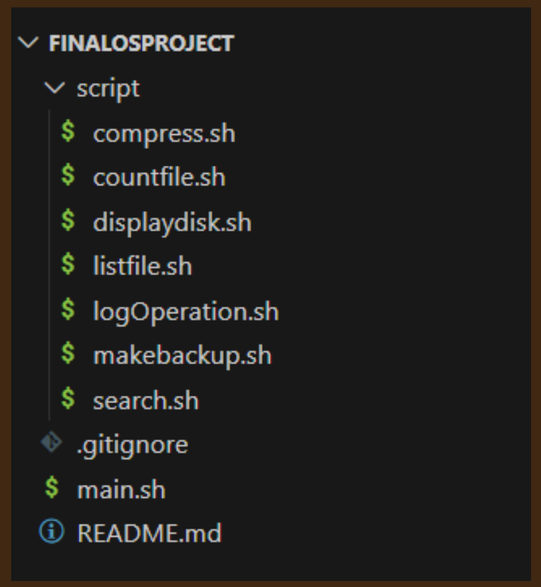
Implementation

Languages & Tools:

- Bash Scripting for automation.
- Linux Commands such as ls, mkdir, touch, zip, du, find, and cp.
- Git & GitHub for version control and collaboration.

Code Structure:

- Each feature implemented in separate .sh files:



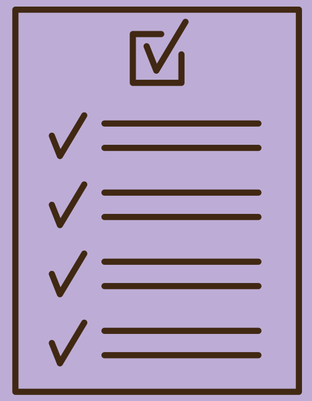
Achieved Features

- Implemented all core functionalities (list file, backup, count, disk, search compress log_actions, main)
- Logs all user actions in script.log.
- Code modularized for readability and maintainability.
- Works across Unix-based OS (Linux, macOS, WSL on Windows).

Uncompleted Features

Any features that were planned but not yet implemented:

- Some Error handling
- Advanced Searching
- Use functions across all files



Challenges

Difficulties:

- Too many unknown command to build a bash program
- Ensuring script compatibility across different Bash versions.
- Managing user input validation.

Solutions:

- Research it online and use chatbot
- Tested scripts on multiple environments.
- Implemented error handling and validation for better stability.

Conclusion

- Learning Experience:
  - Gained hands-on experience with bash scripting for system administration tasks.
  - Understood the importance of clean, modular code in managing complex systems.
- Improvement Ideas:
  - Error handling for invalid file paths.
  - Multi-threaded or parallel processing for larger directories.
  - GUI for a more user-friendly interface.

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THANK YOU