

Task 1: File Integrity Checker

Objective:

Build a tool to monitor changes in files by calculating and comparing hash values.

Deliverable: Python Script

Filename: file_integrity_checker.py

Description: This script ensures file integrity by generating SHA-256 hash values for each file in a directory and comparing them to previously saved hash values to detect any unauthorized modifications, additions, or deletions.

Features:

- Uses hashlib for secure SHA-256 hashing
- Scans all files in the specified directory • Stores hash values in a file_hashes.json file
- Detects and reports: ○ New files ○ Modified files ○ Deleted files
- Option to update stored hashes using a update flag