CodTech Internship - Task 1 Report

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Program: B.Tech IT - 3rd Year

Internship Organization: CodTech

Task Number: Task 1

Task Title: File Integrity Checker using Python

Objective:

To build a tool that monitors file changes by calculating and comparing their hash values using Python's hashlib library. This ensures file integrity and detects unauthorized file modifications.

Technologies Used:

- Python 3.x

- hashlib

- json

- Command Line Interface (CLI)

Task Description:

The task was to deliver a working Python script that checks the integrity of selected files by storing and comparing their cryptographic hash values.

Files in Project:

- file_checker.py: The main script

- example.txt: Sample file to track

- data.csv: Sample test file

- file_hashes.json: Created automatically

Sample Output:

[+] New file added: example.txt

[!] File changed: data.csv

[=] No change: example.txt

[!] File not found: logs.txt

Outcome:

The tool successfully detected file changes, tracked new files, and reported unchanged or missing files.

Conclusion:

This task helped improve my Python skills in file handling and hash-based integrity checking. It was a valuable hands-on learning experience under my CodTech internship.

Submitted By: Prajin S, CodTech Intern - Task 1