Log Management and Analysis System Using Python and CMD

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Introduction

Purpose: Explain the aim of project and suggest own experience
Scope: Briefly describe the system functions(creating logs,analyzing errors,generate report,moving files)
Tools used: CMD commands, Python

Methodology

Step 1: CMD Setup
Task completed
Creating folder by using “mkdir”
Generated files named log1.txt and log2.txt with “echo”
Example of commands:

```
mkdir Logs
echo "INFO: Process started" > Logs\log1.txt
echo "ERROR: Something went wrong" >> Logs\log2.txt
```

Step 2: Python Logging Function
Task completed
Function: write_log(file_name, message)

Code used:

```
def write_log(file_name, message):
    with open(file_name, 'a') as file:
        file.write(message + "\n")
```

Testing:wrote text messages: (e.g., write_log("log1.txt", "ERROR: File not found")

Step 3: Error Counting
Task completed
Functions:
count_errors(file_name): Counts "ERROR" lines
count_warnings(file_name): Counts “WARNING’ lines
Code logic: Used open( ) and for loops to iterate through lines.

Step 4: Log analysis & Generate report
Task completed
Function: analyze_logs(file_name)
Returned counts for “ERROR”,”WARNING” and “INFO”
Generated a summary report file (e.g report_logs.txt

Step 5: File movement
Task completed
CMD: Created new folders by “mkdir” and moved already existing files by “move”
Python: Used shutil.move() to automate file transfers

Results

Sample Outputs:
Screenshots/log snippets showing
Log files with messages
Analyze results (e.g., ERROR: 2, WARNING: 1)
FIles moved to Processed by CMD and Python

Challenges Faced:
During completing this project i have faced with topic i knew it before, i guess it was kind of super starting for me, so personally for me it wasn’t so much hard anyway i couldn't say that was easy because i got some trouble for example recording video and working with Python again after long time even though i successfully complete all

Discussion

Key Learnings:
Right now i wanna discuss an a informal type
so i learned from this experience mostly is combine CMD+Python while working mine things is pretty great and helpful cuz when u work with a lot files u can get trouble by using all so u can just edit by type using just basic python code it's just awesome.

Improvements:
While working with taks i got some things like "Can I improve it in future?" and i first answer for that was probably add timestamps to logs and extend analysis to include trends over time.

Conclusion

In conclusion i want to say i successfully complete the project and goals of this report.