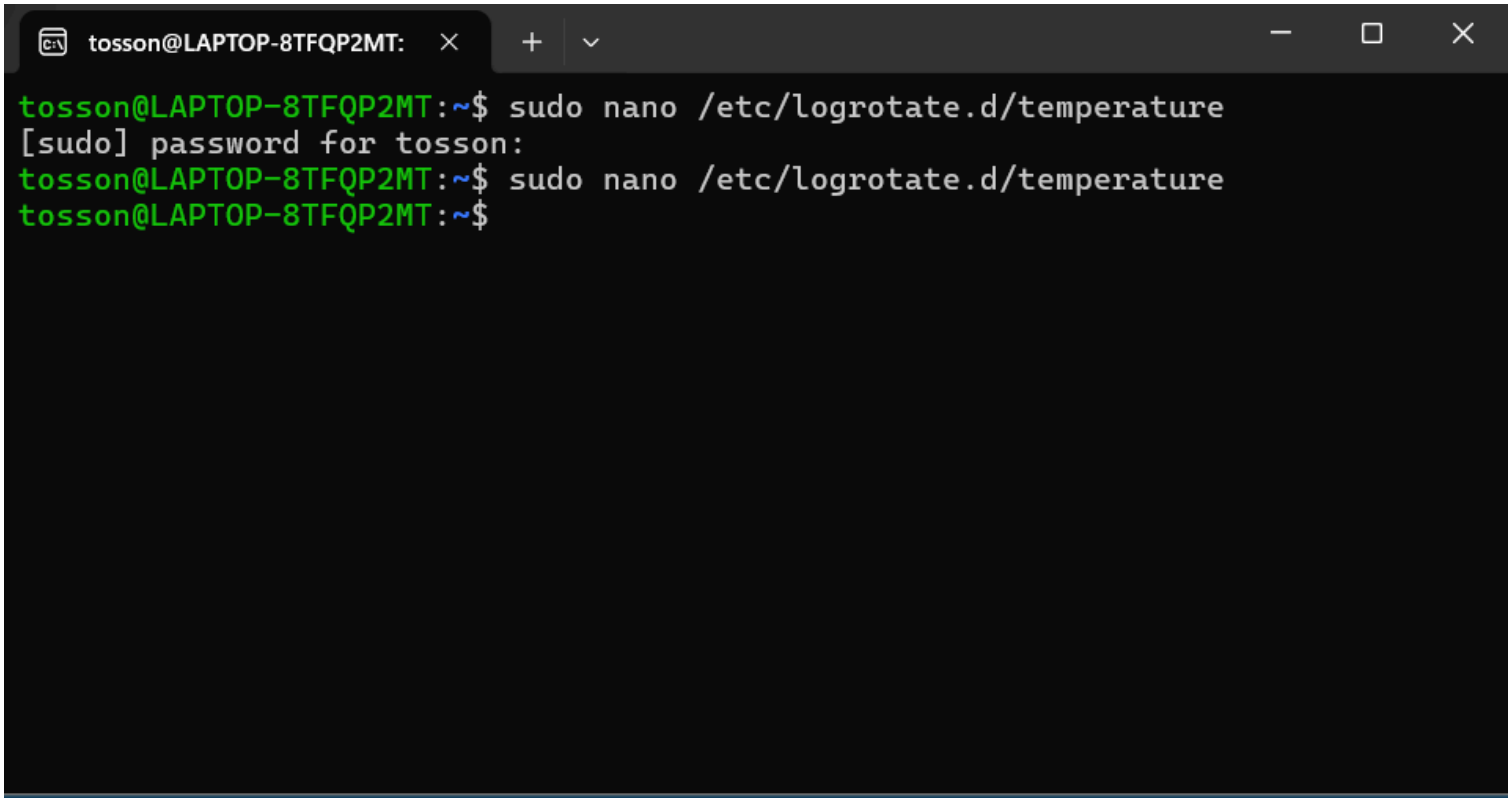
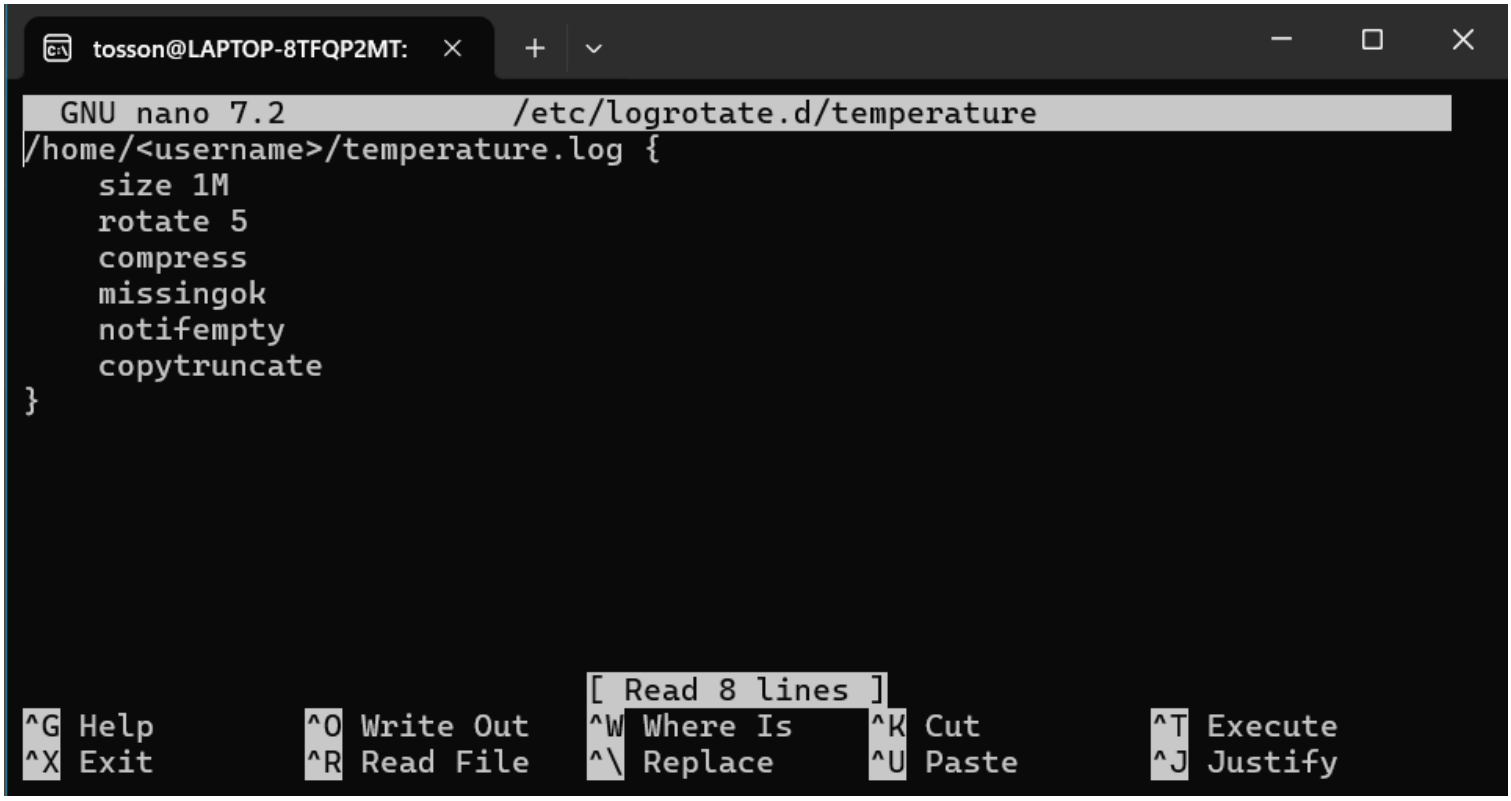
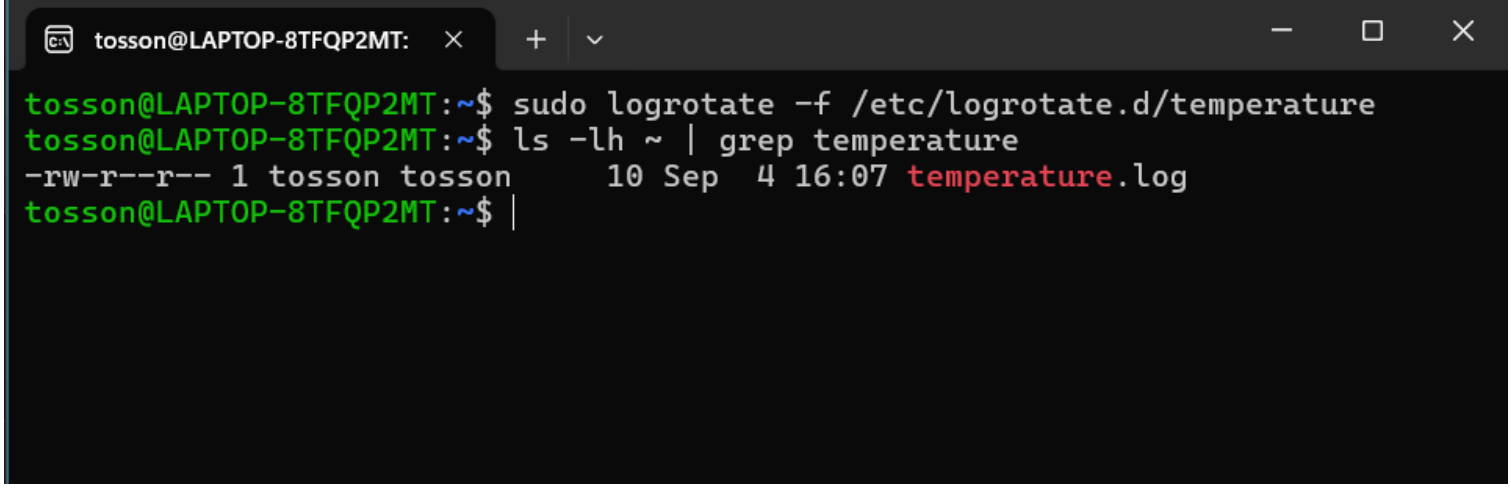
Day6

Configure log rotation for temperature.log (rotate at 1 MB, compress)

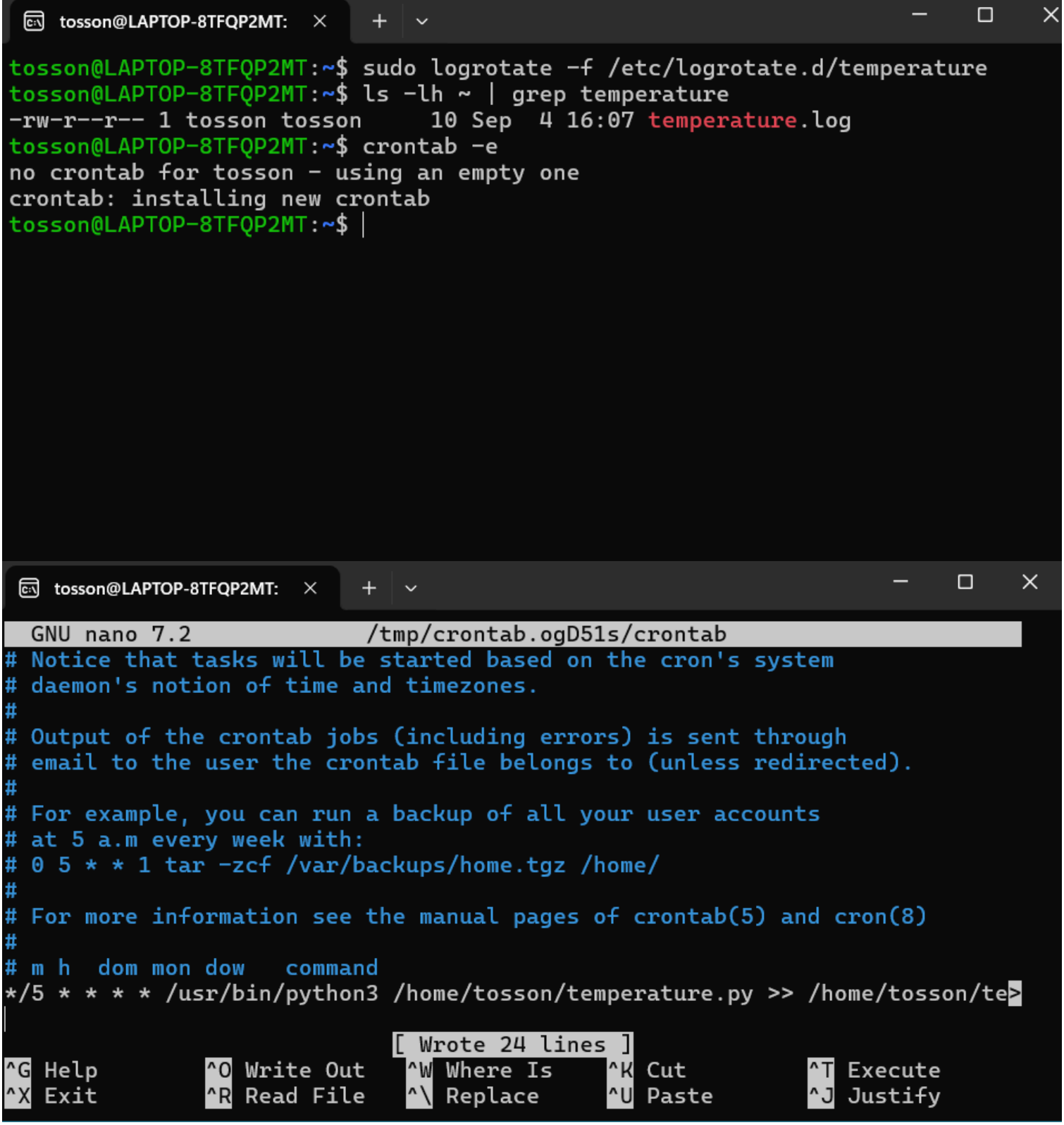




Test by forcing a rotation.



Schedule the Python script to run every 5 minutes with cron.



Verify log growth over time.

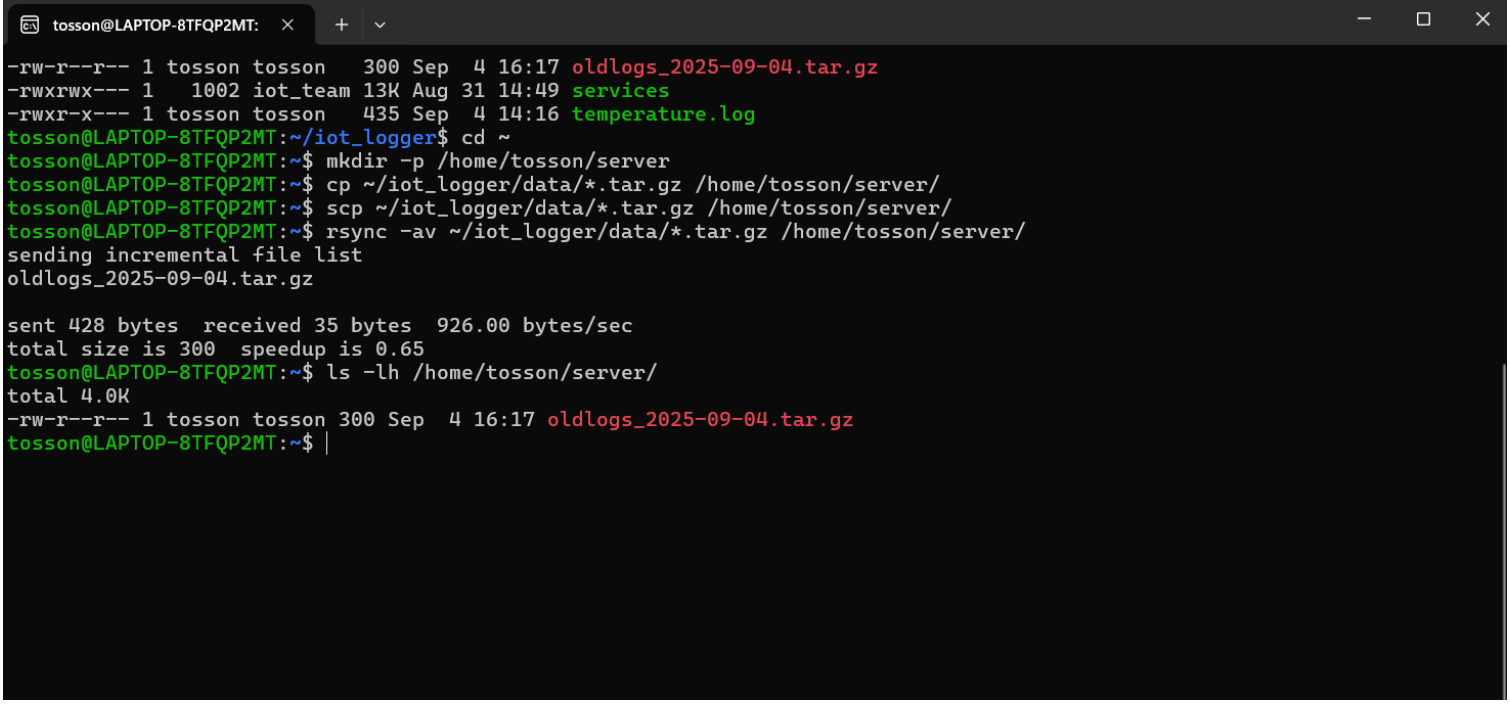
```
tosson@LAPTOP-8TFQP2MT:~$ sudo logrotate -f /etc/logrotate.d/temperature
tosson@LAPTOP-8TFQP2MT:~$ ls -lh ~ | grep temperature
-rw-r--r-- 1 tosson tosson     10 Sep  4 16:07 temperature.log
tosson@LAPTOP-8TFQP2MT:~$ crontab -e
no crontab for tosson - using an empty one
crontab: installing new crontab
tosson@LAPTOP-8TFQP2MT:~$ ls -lh /home/tosson/temperature.log
-rw-r--r-- 1 tosson tosson 10 Sep  4 16:07 /home/tosson/temperature.log
tosson@LAPTOP-8TFQP2MT:~$
```

Compress old logs into .tar.gz in data/

```
    └── temperature.log
├── output.txt
├── scripts
│   ├── calc.sh
│   ├── loop.sh
│   └── sensor_script.py
└── sym_temp.log -> /home/tosson/iot_logger/logs/temperature.log

4 directories, 11 files
tosson@LAPTOP-8TFQP2MT:~$ cd iot_logger
tosson@LAPTOP-8TFQP2MT:~/iot_logger$ tar -czf data/oldlogs_$(date +%F).tar.g
z logs/*.log
tosson@LAPTOP-8TFQP2MT:~/iot_logger$ ls -lh data/
total 28K
-rw-r--r-- 1 tosson tosson   410 Sep  4 14:16 filtered.log
-rw-r--r-- 1 tosson tosson   300 Sep  4 16:17 oldlogs_2025-09-04.tar.gz
-rwxrwx--- 1   1002 iot_team 13K Aug 31 14:49 services
-rwxr-x--- 1 tosson tosson   435 Sep  4 14:16 temperature.log
tosson@LAPTOP-8TFQP2MT:~/iot_logger$
```

Simulate sending archives to /home//server/ using cp, scp, or rsync.



How does cron scheduling work? Show a crontab entry to run a script every 5 minutes.

Cron is a Linux scheduler that runs tasks automatically at specified times based on a crontab file. It uses a 5-field format: minute, hour, day of month, month, and day of week.
Example:

```
*/5 * * * * /usr/bin/python3 /home/tosson/temperature.py >>
/home/tosson/temperature.log 2>&1
```

Why do we need log rotation? Show an example logrotate config for temperature.log.

Log rotation prevents log files from growing indefinitely, which could waste disk space and make logs hard to manage. It automatically archives, compresses, and replaces old logs, keeping the system organized
Example:

```
/home/tosson/temperature.log {
    size 1M
    rotate 5
    compress
    missingok
    notifempty
    copytruncate
}
```

Explain the difference between a Virtual Machine and a Container. Must containers use the same OS as the host? Why or why not?

VM runs its own full OS on virtual hardware, making it heavier but fully isolated. A Container shares the host’s kernel, isolating only apps and dependencies, so it’s lighter and faster. Containers don’t need the same distro as the host but must use the same kernel type

Reflection: Which actions in this project combined multiple Linux concepts (e.g., redirection + process monitoring)? How does this apply to real IoT systems?

This project used cron with redirection to run scripts and save output, log rotation with compression to manage storage, and archiving with file transfer to move data. In real IoT systems, these steps keep sensor data collected on time, stored in small files, and sent safely without wasting space or losing data.