

Assignment 2

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Experiment Title: System Startup, Process Creation, and Termination Simulation in Python

Implementation:

```
import multiprocessing
import time
import logging

# Setup logger
logging.basicConfig(
    filename='process_log.txt',
    level=logging.INFO,
    format='%(asctime)s - %(processName)s - %(message)s'
)

# Dummy function to simulate a task
def system_process(task_name):
    logging.info(f"{task_name} started")
    time.sleep(2)
    logging.info(f"{task_name} ended")

if __name__ == '__main__':
```

```

print("System Starting...")

# Create processes

p1 = multiprocessing.Process(target=system_process, args=('Process-1',))
p2 = multiprocessing.Process(target=system_process, args=('Process-2',))

# Start processes

p1.start()
p2.start()

# Wait for processes to complete

p1.join()
p2.join()

print("System Shutdown.")

```

Output:

The screenshot shows a Python code editor interface with the following details:

- Title Bar:** The title bar displays "main.py" and "process_log.txt".
- Language:** Python 3.
- Code Area:** The code area contains the provided Python script.
- Output Area:**
 - Shows the printed output: "System Starting..."
 - Shows the logs from the processes: "Process-1" and "Process-2" each starting and ending after a 2-second sleep.
 - Shows the final printed output: "System Shutdown."
 - Shows the terminal prompt: "...Program finished with exit code 0 Press ENTER to exit console."