

Assignment 2

Nidhi Kumari

2401011484

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 is as follows:


```

1 import logging
2 import time
3 import multiprocessing
4
5 logging.basicConfig(
6     filename='process_log.txt',
7     level=logging.INFO,
8     format='%(asctime)s - %(processName)s - %(message)s'
9 )
10 def system_process(task_name):
11     logging.info(f"{task_name} started")
12     time.sleep(2)
13     logging.info(f"{task_name} ended")
14
15 if __name__ == '__main__':
16     print("System Starting...")
17
18     p1 = multiprocessing.Process(target=system_process, args=('Process-1',))
19     p2 = multiprocessing.Process(target=system_process, args=('Process-2',))
20
21     p1.start()
22
      
```
- Output Window:** The bottom pane shows the program's output:


```

System Starting...
System Shutdown.

...Program finished with exit code 0
Press ENTER to exit console.
      
```