

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

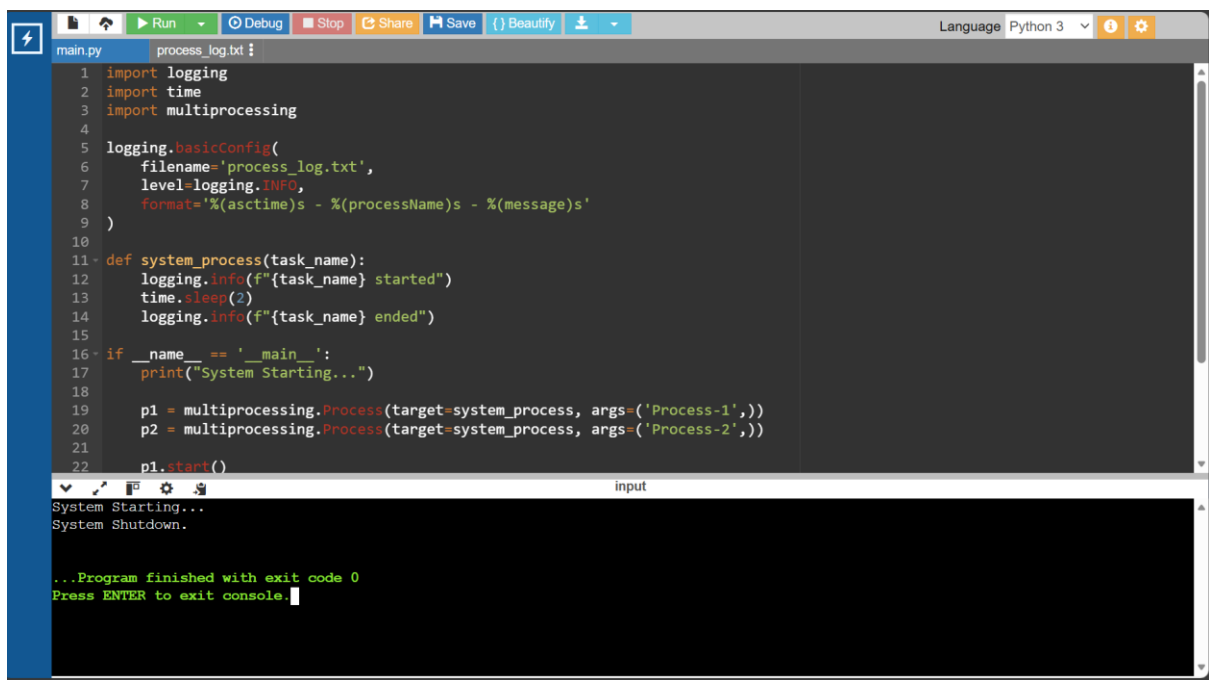
p1.start()
p2.start()


# Wait for processes to complete

p1.join()
p2.join()


print("System Shutdown.")
```

Output:



```
main.py process_log.txt
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
11 def system_process(task_name):
12     logging.info(f"{task_name} started")
13     time.sleep(2)
14     logging.info(f"{task_name} ended")
15
16 if __name__ == '__main__':
17     print("System Starting...")
18
19     p1 = multiprocessing.Process(target=system_process, args=('Process-1',))
20     p2 = multiprocessing.Process(target=system_process, args=('Process-2',))
21
22     p1.start()
23
24     p2.start()
25
26     p1.join()
27     p2.join()
28
29     print("System Shutdown.")
30
31 ...Program finished with exit code 0
32 Press ENTER to exit console.
```