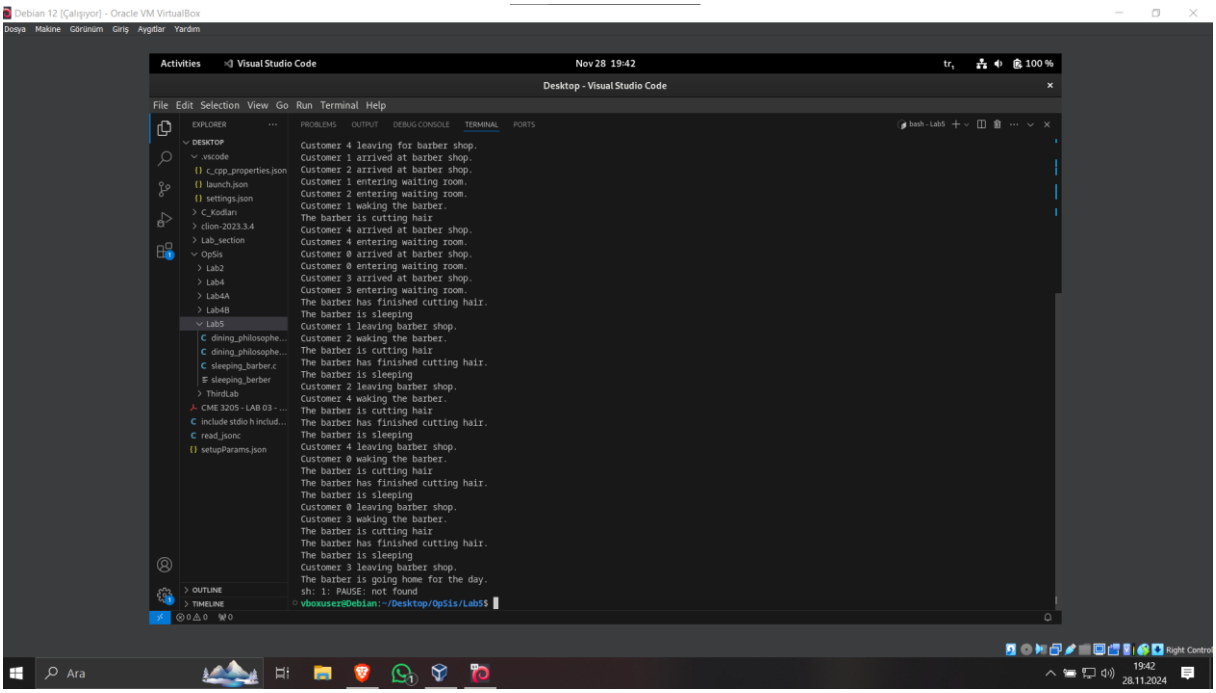
Çağrı AYDIN – 2021510010 – LAB 5

CODE 1:

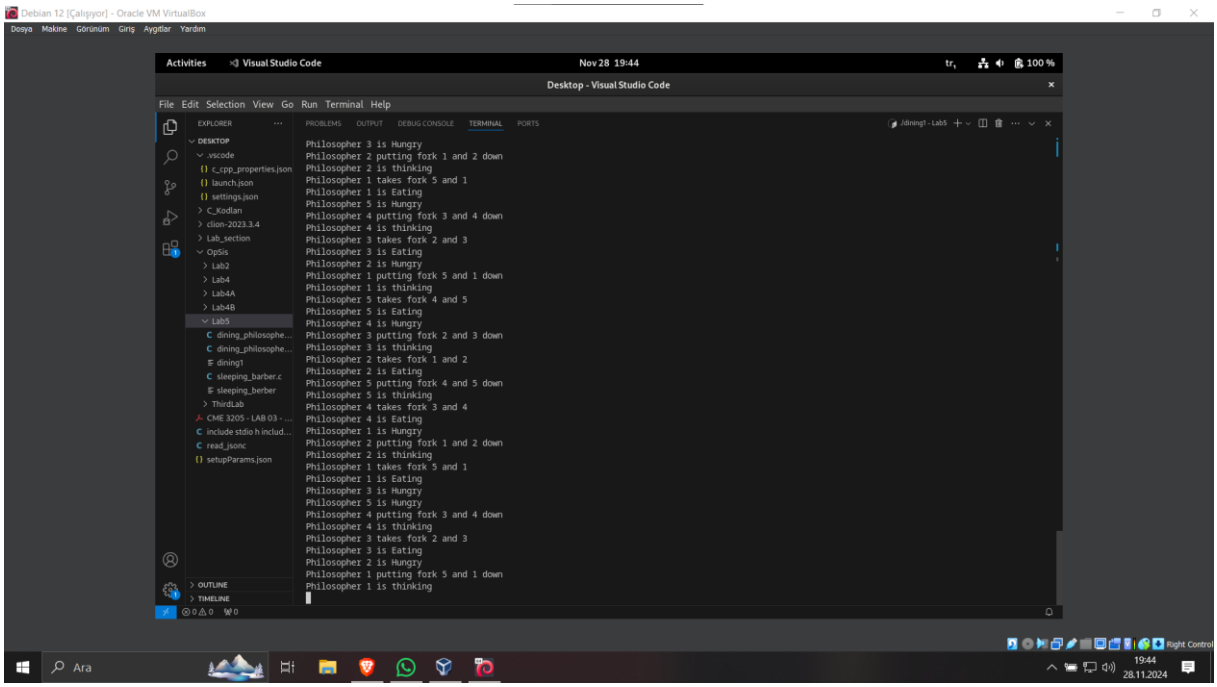


This part implements the sleeping barber problem using semaphores and threads. The barber sleeps when no customers are present, using barberPillow semaphore to wait for a customer. Customers use waitingRoom semaphore to ensure the waiting room has space and barberChair semaphore to occupy the barber's chair. The barber cuts hair and signals the customer with the seatBelt semaphore when finished. When all customers are served, the allDone flag ensures the barber stops working.

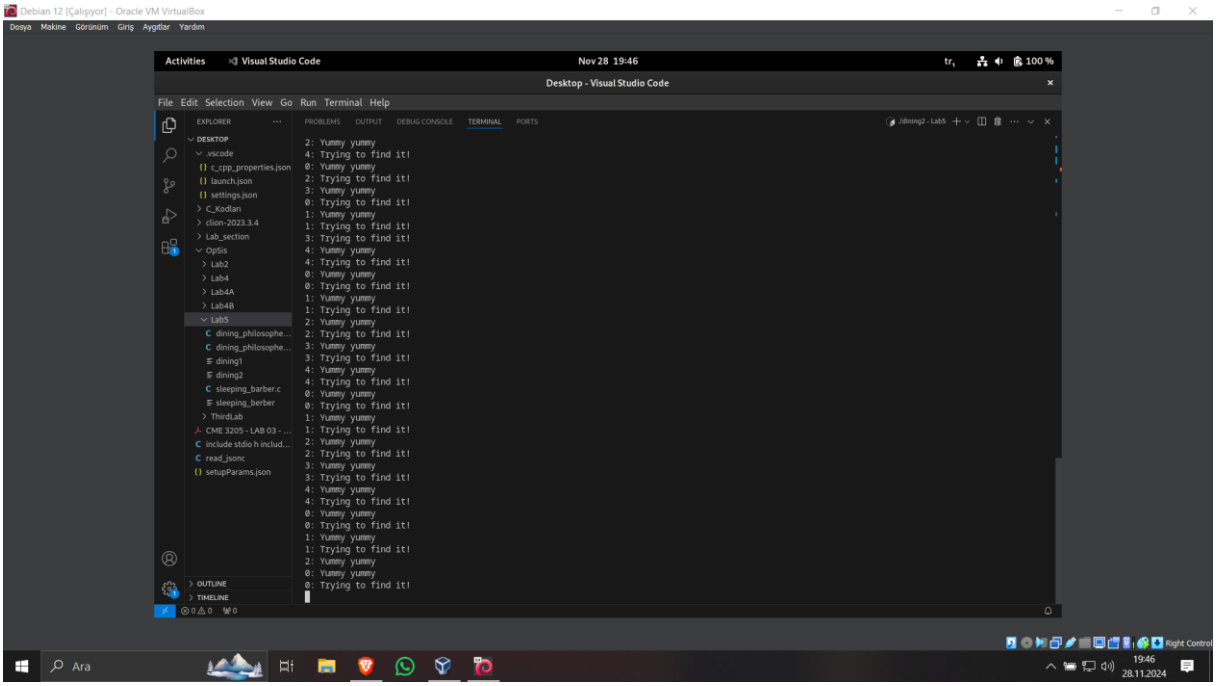
CODE 2 & 3:

In code 3 program solves the issue occurs in code 2 using semaphores and threads. Five philosophers sit at a table and share forks to eat. Each philosopher can think, get hungry, or eat. They can only eat if their left and right neighbors are not eating. Semaphores are used to control access to forks and avoid deadlocks. A mutex semaphore ensures that only one philosopher changes their state at a time. Each philosopher's thread runs in a loop, alternating between thinking and eating. This solution ensures fairness and prevents conflicts over shared resources.

CODE 2 SS:


Debian 12 [Çalışıyor] - Oracle VM VirtualBox
Dosya Makine Görünüm Giriş Aygıtlar Yardım
Activities
Visual Studio Code
Nov 28 19:44
100 %
Desktop - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
DESKTOP
.vscode
c_cpp_properties.json
launch.json
settings.json
C_Kodlari
clion-2023.3.4
Lab_section
OpSis
Lab2
Lab4
Lab4A
Lab4B
Lab5
dining_philosophe...
dining_philosophe...
dining1
sleeping_barber.c
sleeping_berber
ThirdLab
CME 3205 - LAB 03 - ...
include stdio h includ...
read_jsonc
setupParams.json
OUTLINE
TIMELINE
Philosopher 3 is Hungry
Philosopher 2 putting fork 1 and 2 down
Philosopher 2 is thinking
Philosopher 1 takes fork 5 and 1
Philosopher 1 is Eating
Philosopher 5 is Hungry
Philosopher 4 putting fork 3 and 4 down
Philosopher 4 is thinking
Philosopher 3 takes fork 2 and 3
Philosopher 3 is Eating
Philosopher 2 is Hungry
Philosopher 1 putting fork 5 and 1 down
Philosopher 1 is thinking
Philosopher 5 takes fork 4 and 5
Philosopher 5 is Eating
Philosopher 4 is Hungry
Philosopher 3 putting fork 2 and 3 down
Philosopher 3 is thinking
Philosopher 2 takes fork 1 and 2
Philosopher 2 is Eating
Philosopher 5 putting fork 4 and 5 down
Philosopher 5 is thinking
Philosopher 4 takes fork 3 and 4
Philosopher 4 is Eating
Philosopher 1 is Hungry
Philosopher 2 putting fork 1 and 2 down
Philosopher 2 is thinking
Philosopher 1 takes fork 5 and 1
Philosopher 1 is Eating
Philosopher 3 is Hungry
Philosopher 5 is Hungry
Philosopher 4 putting fork 3 and 4 down
Philosopher 4 is thinking
Philosopher 3 takes fork 2 and 3
Philosopher 3 is Eating
Philosopher 2 is Hungry
Philosopher 1 putting fork 5 and 1 down
Philosopher 1 is thinking
Ara
Right Control
19:44
28.11.2024

CODE 3 SS: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dining_philosophe...
dining1
dining2
sleeping_barber.c
sleeping_berber
ThirdLab
CME 3205 - LAB 03 - ...
include stdio h includ...
read_jsonc
setupParams.json
OUTLINE
TIMELINE
2: Yummy yummy
4: Trying to find it!
0: Yummy yummy
2: Trying to find it!
3: Yummy yummy
0: Trying to find it!
1: Yummy yummy
1: Trying to find it!
3: Trying to find it!
4: Yummy yummy
4: Trying to find it!
0: Yummy yummy
0: Trying to find it!
1: Yummy yummy
1: Trying to find it!
2: Yummy yummy
2: Trying to find it!
3: Yummy yummy
3: Trying to find it!
4: Yummy yummy
4: Trying to find it!
0: Yummy yummy
0: Trying to find it!
1: Yummy yummy
1: Trying to find it!
2: Yummy yummy
2: Trying to find it!
3: Yummy yummy
3: Trying to find it!
4: Yummy yummy
4: Trying to find it!
0: Yummy yummy
0: Trying to find it!
1: Yummy yummy
1: Trying to find it!
2: Yummy yummy
0: Yummy yummy
0: Trying to find it!
Ara
Right Control
19:46
28.11.2024