

# CSGE602055 Operating Systems

## CSF2600505 Sistem Operasi

### Week 07

Rahmat M. Samik-Ibrahim

University of Indonesia at Lenteng Agung

<http://rahmatm.samik-ibrahim.vlsm.org/>

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# Agenda

- 1 Start
- 2 Agenda
- 3 Week 07
- 4 Peterson
- 5 Lab
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# Week 07: Synchronization

- Reference: (OSCE2e ch5) (UCB 7/8) (UDA P3L3/4) (OLD 04)
- The Critical Section Problem
- Race Condition
- Peterson's Solution
- Semaphores
- Deadlock and Starvation
- Deadlock Characterization
- Resource Graph

# Peterson's Solution

## Process 0

```
turn =  
  
flag[0]=  
  
do {  
    flag[0] = true  
    turn = 1  
    while (flag[1] && turn == 1)  
        (do nothing);  
    [CRITICAL SECTION];  
    flag[0] = false  
    [REMAINDER SECTION];  
} while(true);
```

## Process 1

```
turn =  
  
flag[1]=  
  
do {  
    flag[1] = true  
    turn = 0  
    while (flag[0] && turn == 0)  
        (do nothing);  
    [CRITICAL SECTION];  
    flag[1] = false  
    [REMAINDER SECTION];  
} while(true);
```

- semaphores()
- pthread()

# The End

- This is the end of the presentation.