

## Critical Section

### Mutual Exclusivity

1. Mutual Exclusion
2. Progress
3. Bounded Waiting

## Algorithm 1

```

Repeat
  While (Turn != i) do skip
Critical Section
  Turn = j
Remainder section
Until false
  
```

## Algorithm 1

(Assuming process i arrives first)

Process i	Process j
Repeat	Repeat
While (Turn != i) do skip	While (Turn != j) do skip
Critical Section	Critical Section
Turn = j	Turn = i
Remainder section	Remainder section
Until false	Until false

## Algorithm 2

```

var flag: array[0..1] of boolean
flag[i] = flag[j] = false
Repeat
  While (flag[i]) do skip
  flag[j] = true
Critical Section
  flag[j] = false
Remainder section
Until false
  
```

## Algorithm 2

Flag[i] = flag[j] = false

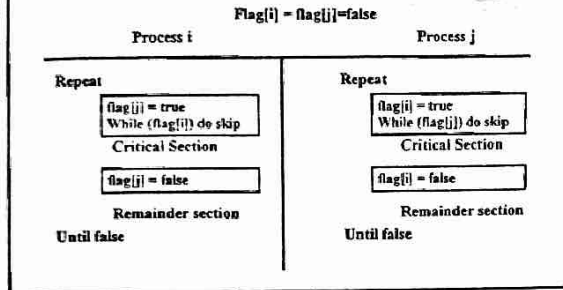
Process i	Process j
Repeat	Repeat
While (flag[i]) do skip flag[j] = true	While (flag[j]) do skip flag[i] = true
Critical Section	Critical Section
flag[j] = false	flag[i] = false
Remainder section	Remainder section
Until false	Until false

## Algorithm 3

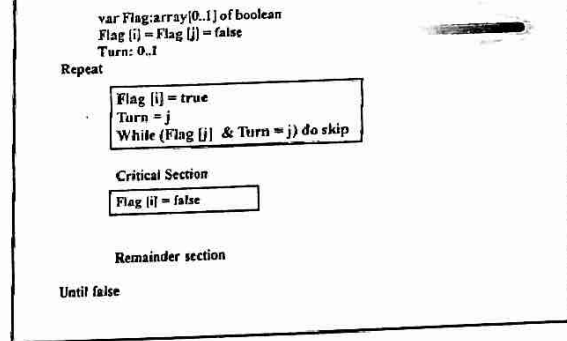
```

var flag: array[0..1] of boolean
flag[i] = flag[j] = false
Repeat
  flag[i] = true
  While (flag[j]) do skip
Critical Section
  flag[i] = false
Remainder section
Until false
  
```

### Algorithm 3



### Algorithm 4



### Algorithm 4

