

Peterson's Solution

- It is a software based solution to the critical section problem.
- It is restricted to two processes only.
- It does not guarantee that solution will work correctly on modern architectures.
- It requires two data items to be shared between the two processes.
int turn;
boolean flag[2];
- The variable '*turn*' indicates whose turn it is to enter its critical section, e.g. if $turn == i$ then process P_i is allowed to execute in its critical section.
- The flag array is used to indicate if a process is ready to enter its critical section, e.g. if $flag[i] = true$ then it indicates that P_i is ready to enter its critical section.

Structure of process P_i

```
do
{
    flag[i]=true;
    turn=j;
    while(flag[j] && turn==j)
    {
    }
    //Critical Section
    flag[i]=false;
    //Remainder Section
} while(true);
```

Structure of process P_j

```
do
{
    flag[j]=true;
    turn=i;
    while(flag[i] && turn==i)
    {
    }
    //Critical Section
    flag[j]=false;
    //Remainder Section
} while(true);
```

Questions asked in semester exam:

Question: Write and explain Peterson solution to the critical section problem.

[2015-2016][2012-2013] [10 Marks]