

The Big-Step Bakery Algorithm

--algorithm *BigStepBakery*

```
{  variable  $num = [i \in Procs \mapsto 0]$  ;  
  process (  $pr \in Procs$  )  
    variable  $unchecked = \{\}$  ;  
    {   $ncs$ : while ( TRUE )  
      {  enter: with (  $i \in \{j \in Nat : \forall q \in Procs : j > num[q]\}$  )  
        {   $num[self] := i$  } ;  
         $unchecked := Procs \setminus \{self\}$  ;  
        wait: while (  $unchecked \neq \{\}$  )  
          {  with (  $q \in unchecked$  )  
            {  await  $\vee num[q] = 0$   
               $\vee \langle num[self], self \rangle \prec \langle num[q], q \rangle$  ;  
               $unchecked := unchecked \setminus \{q\}$   
            }  
          }  
        } ;  
         $cs$ : skip ;      critical section  
        exit:  $num[self] := 0$   
      }  
    }  
}
```