

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:  $num[self] := 0$   
    }  
  }  
}
```