

```

-----MODULE_BigStepBakery-----
EXTENDS_Integers
_
CONSTANT_N
ASSUME_N\in_Nat
_
Procs_==_1..N
_
a_\prec_b==_\/_a[1]_<_b[1]
_
_/_(a[1]_=_b[1])_/_(a[2]_<_b[2])
_
(*
--algorithm_BigStepBakery
{variable_num_=[i\in_Procs|->_0]_;
process_(pr_\in_Procs)
variable_unchecked_={}_;
{ncs:_while_(TRUE)
{enter:_with_(i_\in_{j_\in_Nat:_\A_q_\in_Procs:_j_>_num[q]_})
{num[self]_=_i_};
unchecked_=_Procs_\_{self}_;
wait:_while_(unchecked_{self})
{with_(i_\in_unchecked)
{await_\/_num[i]_=_0
_/_<<num[self],_self>>_\prec_<<num[i],_i>>_
unchecked_=_unchecked_\_{i}
}
}
}
cs:_skip_;_*_critical_section
exit:_num[self]_=_0
}
}
}****)
-----
TypeOK_==_\/_num_\in_[Procs_->_Nat]
_/_unchecked_\in_[Procs_->_SUBSET_Procs]
_/_pc_\in_[Procs_->_{ "ncs", "enter", "wait", "cs", "exit" }]
_
MutualExclusion_==
_/_A_p,_q_\in_Procs:_(_p_{q})_>_~((pc[p]_=_ "cs")_/_(pc[q]_=_ "cs"))
=====

```