## TÚNEL SOLUCIÓN BÁSICA

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## TUNNEL SOLUCION BASICA: demosmación

cas\_notn:= cos\_noth +1

```
Alejandro Miranda Carres
     car: aerco
                                                         Hector footriquez Peco
         Loop
                                                         Marta Impuesso Rico
            direction: = roudom (NORTH, SOUTH)
            manira, wants_ener (direction)
            monitor. Icayes_tunnel (direction)
      monitor:
        cars_north: Int 4 # coard yordo hacra el note en el rinel.
        cars_south: Int 1, # coones yendo hava el sur en el lúnel.
        Someone_north: condition
        sameone_south: condition
      + INV: cos_rath > 0 × cos_south > 0 × (7 (cos_rath) 0 × cos_south > d)}
      def waus_ eat (direction):
         TIMVE
         If direction = = NORTH
             screene - South . wait (cos_ south ==0)
            TIMY N cars_ south == ot
            cars_noth := cos_north +1
            TIMIT
        else: 4 (direction == South)
            Someone_north.wait (cas_north ==0)
            -INVA COS_NOTO == 0 +
            cas_ South: = cos_South 1
           + INV+
       TINV F
• INV ∧ cars_south = = 0 (=> cas_north ≥0 ∧ cas_south = = 0 ∧
 N (7 (cas-north>0 n cas-south >0) (=) cas-north ≥0 n cos-south ==0 =)
                                                         Los primeros dos terminos de la
                             FOSO
                                                         caujunch se signen miridimente
                    fouso
                                                          y durino proque consouth ==0
                     aerto
 => cas_nath =1 1 cas_south == 0 => cas_nath>0 1 cas_south == 0 => INV V
```

```
avalogo al omo
 ● INV N CORS_ NORTH == 0 (=> CORS_ NORTH == 0 N CORS_ SOUTH ≥0 => CORS_NORTH == 0 N
  1 cars - South 21 - Cars - noth = = 0 1 cars - South >0 =) INVV > cars - South + 4
                                              pero con cors-north == 0
      def leaves tunnel (direction):
      + INV N (( cas_north >0 N cars_south == 0 N direction == NOATH) ()
       ⊕ C cars_south > 1 cas_nath == 6 1 direction == South) +
            if direction == NOATH:
               + INV & cars_rarch > 0 x cars_south == 0 +
               cos-north := cors-north-1
               Someone_ north. signal ()
               4 INV+
           PISE: (direction = = south)
              + INV n cas_south > 6 n cas_north == 0 +
             cors_south:=cors_south - 1
              someone_south, signal ()
             + INV +
        TINVE
• INV V cas-varty >0 v cas-south ==0 (=> cas-varty ≥0 v cas-south 50 v
 1 (7 (cors_sorth) 0 1 cors_south) 1 cors_north >0 1 cors_south == 0 (=)
(=) cars_north >0 1 cars_south == 0 =) cars_north +1 > 0 1 cars_south == 0 (=)
                                  cors_north := cos_north - 4
(=) COrs_north 20 1 Cors_south ==0 =) INV /
                                           langido or omo coso
• INV A cars_south > 0 A cars_narrh = =0 ←) cars_south >0 A cars_narth ==0 →)
=> cars_south +1> 0 1 cars_north == 0 (=) cars_north 20 1005_south == 0 => INV /
                                                               10 pero ears-north ==0
```

cors\_scuen: = cos\_south\_1