

1. EJERCICIO 5

```

proc costoSubsidioMejora (in th: ephh, in ti: ephi, in monto:  $\mathbb{Z}$ , out res:  $\mathbb{Z}$ ) {
  Pre {validarEncuesta(th, ti)  $\wedge$  monto  $\geq$  0}
  Post {res = monto *  $\sum_{j=0}^{|th|-1}$  (if filtroSubsidio(ti, th[j]) then 1 else 0 fi)}
}

pred filtroSubsidio (ti: ephi, thr: hogar) {
  (thr[@ii7] = 1)  $\wedge$ 
  individuosEnHogar(thr[@hogcodusu]) - 2 > thr[@ii2]
}

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2. EJERCICIO 4

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pred filtroTeleworking (thr: hogar) {
  thr[@mas_500] = 1  $\wedge$ 
  (thr[@iv1] = 1  $\vee$  thr[@iv1] = 2)
}

aux indiceCasaDePersona (th: ephh, indcodusu:  $\mathbb{Z}$ ) :  $\mathbb{Z}$  =
 $\sum_{j=0}^{|th|-1}$  if th[j][@hogcodusu] = indcodusu then j else 0 fi;

pred hacenTeleworking (th: ephh, p: individuo) {
  filtroTeleworking(th[indiceCasaDePersona(th, p[@indcodusu])])  $\wedge$  th[j][@ii3] = 1  $\wedge$  p[@ppo4g] = 6
}

pred cumpleFiltroTeleworking (th: ephh, p: individuo) {
  filtroTeleworking(th[indiceCasaDePersona(th, p[@indcodusu])])
}

aux percentTeleworking (th: ephh, ti: ephi) :  $\mathbb{R}$  =
  ( $\sum_{j=0}^{|ti|-1}$  (if hacenTeleworking(th, ti[j]) then 1 else 0 fi)) /
  ( $\sum_{j=0}^{|ti|-1}$  (if cumpleFiltroTeleworking(th, ti[j]) then 1 else 0 fi));

proc creceElTeleworkingEnCiudadesGrandes (in t1h: ephh, in t1i: ephi,  $\in$  t2h: ephh,  $\in$  t2i: ephi, out res: Bool) {
  Pre {
    validarEncuesta(t1h, t1i)  $\wedge$  validarEncuesta(t2h, t2i)  $\wedge_L$ 
    t1h[0][@hogaño] < t2h[0][@hogaño]  $\wedge$ 
    t1h[0][@hogtrimestre] = t2h[0][@hogtrimestre]
  }
  Post {res = percentTeleworking(t1h, t1i) < percentTeleworking(t2h, t2i)}
}

```