

EJERCICIO 4.3

September 5, 2021

```
proc laCasaEstaQuedandoChica(in th : ephh, in ti : ephi, out res : seq⟨Z⟩)
    Pre[validarEncuesta(th : ephh; ti : ephi)]
    Post[|res| = 6 ∧L (∀i ∈ Z)(0 ≤ i ≤ 5 ∧L res[i] = @ProporcionCasasHacinadas(th, ti, i+1))]
```

1 Funciones y predicados auxiliares

```
pred EsCasayEstaEnZona(th:ephh, region : Z, filadeTh : Z)
    (EsCasayEstaEnZona(th, region, filadeTh) = True ⇔ (th[j][@region] =
    region ∧ th[j][@mas500] = 0 ∧ th[j][@iv1] = 1))
```

```
aux @CasasTotales(th : ephh, region : Z) : Z =
    ∑j=0|th|-1 s(j)(if EsCasayEstaEnZona(th, region, filadeTh) then 1 else 0 fi)
```

```
aux @CasasHacinadas(th : ephh, ti : ephi, region : Z) : Z =
    ∑j=0|th|-1 s(j)(if (EsCasayEstaEnZona(th, region, filadeTh) ∧ (individuosEnHogar(ti, th[j][@hogcodusa
    3 * th[j][@iv2])) then 1 else 0 fi)
```

```
aux @ProporcionCasasHacinadas(th : ephh, ti : ephi, region : Z) : R =
    (∀k ∈ Z)(if (1 ≤ k ≤ 6 ∧L @CasasTotales(th, k) > 0) then  $\frac{@CasasHacinadas(th, ti, k)}{@CasasTotales(th, k)}$  else 0 fi)
```

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