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proc seEnojó? (in s: señal, in umbral:  $\mathbb{Z}$ , in prof:  $\mathbb{Z}$ , in freq:  $\mathbb{Z}$ , out result: Bool) {
  Pre {umbral > 0  $\wedge$  esSeñalAux(s, prof, freq) }
  Post {
    result = umbralEnRango(umbral, prof)  $\wedge$ 
    existeUnaSubsecuenciaQueSuperaUmbral(s, freq, umbral) }
}

pred umbralEnRango (umbral:  $\mathbb{Z}$ , p:  $\mathbb{Z}$ ) {umbral  $\leq 2^{p-1} - 1$ }

pred existeUnaSubsecuenciaQueSuperaUmbral (s: señal, freq:  $\mathbb{Z}$ , umbral:  $\mathbb{Z}$ ) {
  ( $\exists d, h: \mathbb{Z}$ )  $0 \leq d, h < |s| + 1 \wedge (h > (d + freq * 1000 * 5)) \wedge_L ($ 
    ( $\forall i: \mathbb{Z}$ )  $0 \leq i < |subseq(s, d, h)| \longrightarrow_L abs(subseq(s, d, h)[i]) > umbral$ )
  }
}

fun abs (x:  $\mathbb{Z}$ ) :  $\mathbb{Z}$  = if x > 0 then x else - x fi;

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