(d)

$S \equiv$ if ($\overbrace{s[i] > 0}^{B}$) then $\overbrace{s[i] := -s[i]}^{S1}$ else $\overbrace{\text{skip}}^{S2}$ endif

$Q \equiv (\forall y : \mathbb{Z})(0 \le y < |s| \rightarrow_L s[y] \ge 0)$

$wp(S, Q) \overset{(4)}{\equiv} \boxed{0}(B) \wedge_L ((B \wedge \boxed{1}wp(S1, Q)) \vee (\neg B \wedge \boxed{2}wp(S2, Q)))$

$\boxed{0} = def(s[i] > 0)$

$\equiv def(s) \wedge def(i) \wedge def(0) \wedge_L 0 \le i < |s|$

$\equiv \underline{0 \le i < |s|}$

$\boxed{1} \equiv s[i] > 0 \wedge wp(s := setAt(s, i, -s[i]), Q)$

$\equiv \left(def(setAt(s, i, -s[i])) \overset{(2)}{\wedge_L} Q^{s}_{setAt(s,i,-s[i])} \overset{(2A)}{} \right) \wedge s[i] > 0$

(2) $\underline{0 \le i < |s|}$

(2A) $\equiv (\forall y : \mathbb{Z})(0 \le y < |s| \rightarrow_L setAt(s, i, -s[i]) \ge 0))$

$\equiv (\forall y : \mathbb{Z})(0 \le y < |s| \rightarrow_L$

$(i \neq y \wedge s[y] \ge 0) \vee$

$(i = y \wedge -s[y] \ge 0)$

) A

luego $\boxed{1} \equiv s[i] > 0 \wedge (0 \le i < |s| \wedge_L A)$