We are asked to prove/disprove

|[b:array[0..N) of bit
$\{s.b = x\}$
negate
$\{s.b = -x\}$
]|

We can refine negate as follows:
$\{s.b = x\}$
complement
$\{s.b \quad = \quad -x - 1\}$
add one
$\{s.b = -x\}$

and now we see the problem. If $s.b \quad \geq \quad 2^{n-1} - 1$ before *add one* is executed, then overflow will occur.