Rubin's problem statement says that nothing should be printed if

$$\forall\ i \in \{0, \ldots n-1\}, \sim (\forall\ j \in \{0, \ldots n-1\}, x[i][j] = 0)$$

Edsgar W Dijkstra, EWD 1009

The Theorem of the Bounded Linear Search is

Theorem

If $n \in \mathbb{W}$ and $B : \{0, \ldots n-1\} \to \mathbb{B}$, then the Hoare triple in the following code holds:

```
f = True
i = 0
# P
while f and i != n :
    f = B(i)
    i += 1
# Q
```

where...

where. . .

$$
\begin{aligned}
P &= 0 \leq i \leq n \wedge \\
&\quad f \equiv (\forall\ k \in \{0, \ldots i\}, B(k)) \wedge \\
&\quad \forall\ k \in \{0, \ldots i-1\}, B(k) \\
\\
Q &= P \wedge (\sim f \vee i = n)
\end{aligned}
$$

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