```
fact (n0) {
    s := 1
    i := 1
    while (i <= n0) do {
        s := s x i
        i := i+1
    }
}
```

Loop Invariant: $s = i!$

Initialization: $s = 1!$

Maintanance:

before ith iteration

$s = i!$

after ith iteration

$s = (i+1) \times i! = (i+1)!$

Termination:

$s = n_0!$

Therefore:

$\vdash \{n_0 \geq 0\}\ fact\ \{s = n_0!\}$