

<https://github.com/Aarhus-University-ECE/assignment-11-Daniel6702.git>

???

Proof by induction: $Fact(n) = n!$

Base case:

$$Fact(1) = 1 \Leftrightarrow 1 \cdot 1 = 1 \quad (\text{By definition})$$

Inductive step, i.e., where $n > 1$:

Assume $fact(n - 1)$ correctly calculate the factorial according to the base case, then

$fact(n) = n \cdot fact(n - 1)$ will calculate $n!$ as per the definition: $n! = n \cdot (n - 1)!$ as a recurrence relation.