https://github.com/Aarhus-University-ECE/assignment-11-jacobrask15.git

1)

Factorial function proof by induction

Base case:

fact(1) = 1

This is true since the factorial of 1 is defined to 1.

Inductive step:

Inductive hypothesis: It is assumed that fact(k-1) correctly calculates the factorial of (k-1).

If the hypothesis is true, then fact(k) = k * fact(k-1) = k * (k-1)! is true.

k * (k-1)! Is the definition of k!, therefore the function has been proved.