TMA4265 Stochastic Processes
Week 41-42 – Exercises

Exercise 1

Show that for a Poisson process $N = \{N(t), t \geq 0\}$ the following statement is valid:

$$P(N(s) = k \mid N(t) = n) = \binom{n}{k} \left(\frac{s}{t}\right)^k \left(1 - \frac{s}{t}\right)^{n-k}, \quad \text{for } s < t$$