IMM - DTU
02405 Probability
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## Solution for exercise 3.2.7 in Pitman

We define the indicator variables $I_{i}$ which are 1 of switch $i$ are closed 0 elsewhere. We have $X=I_{1}+I_{2}+\cdots+I_{n}$, such that
$E(X)=E\left(I_{1}+I_{2}+\cdots+I_{n}\right)=E\left(I_{1}\right)+E\left(I_{2}\right)+\cdots+E\left(I_{n}\right)=p_{1}+p_{2}+\cdots+p_{n}=\sum_{i=0}^{n} p_{i}$

