Exercises

E7.59 [OFZ] Let I be a family of indices, let a_i be a sequence with $a_i \geq 0$; let moreover $\mathcal{F}$ be a partition of I (not necessarily of finite cardinality); then prove that

$$\sum_{F \in \mathcal{F}} \sum_{i \in F} a_i = \sum_{i \in I} a_i \quad .$$