Definition 2.5.2. Let M be a nonempty set, for each m let a_m be a real non-negative number. If then there exists a number R such that $\sum m \in \Delta a_m \leq R$ for every finite subset Δ of M, then we define

$$\sum_{m \in M} a_m := \sup_{\Delta \subset M} \sum_{m \in \Delta} a_m.$$