Errata - A Modern Introduction to Mathematical Analysis, by Alessandro Fonda

Page 176, lines -6 on.

Replace

Let $N = \max\{1 \le j \le m : x_j \in E\}$. Since $[a_{j-1}, a_j] \subseteq [x_j - \delta(x_j), x_j + \delta(x_j)]$, we have that $a_j - a_{j-1} \le 2\delta(x_j)$, and if x_j is in E it must be that $x_j = e_n$ for some $n \in \mathbb{N}$.

by

Since $[a_{j-1}, a_j] \subseteq [x_j - \delta(x_j), x_j + \delta(x_j)]$, we have that $a_j - a_{j-1} \leq 2\delta(x_j)$, and if x_j is in E it must be that $x_j = e_n$ for some $n \in \mathbb{N}$. Let N be the maximum of those indices n.