Extra exercises

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1. `Cardano triplets`[1]
   The triplet of integers (a, b, c) where $a, b, c \in \mathbb{N}_0$ bears the name of a `Cardano triplet` if it satisfies the following condition:
   $$\sqrt[3]{a + b\sqrt{c}} + \sqrt[3]{a - b\sqrt{c}} = 1$$
   - e.g. $(2, 1, 5)$ is a `Cardano triplet`
   - there exists 149 `Cardano triplets` for which $a + b + c \leq 1000$
   - how many `Cardano triplets` exist for which $a + b + c \leq 10000000$?

[1] Project Euler - Problem 251 (slimmed down version)