Definition 0.1. *Let $I = [a, b]$ be a (bounded) closed interval of $\mathbb{R}$. We define $\mathcal{C}(\mathcal{I})$ to be the following two intervals:*

$$\mathcal{C}(I) = \{\Big[a, a + \frac{b-a}{3}\Big], \Big[a + \frac{2(b-a)}{3}, b\Big]\}$$

Definition 0.2. *Define the sequence $(\mathfrak{J}_n)$ of sets of (disjoint) intervals by:*

$$\mathfrak{J}_0 = \{[0, 1]\}$$

$$\mathfrak{J}_{n+1} = \bigcup_{I \in \mathfrak{J}_n} \mathcal{C}(I)$$

The ("ternary" or "middle thirds") Cantor set is then

$$\bigcap_{n=0}^{\infty} \Big(\bigcup_{I \in \mathfrak{J}_n} I \Big)$$