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Voronoi Diagram

VD_{sorted}

- ε-Closeness

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❖ Let $x_1, \ldots, x_n$ be n reals, and let $\varepsilon > 0$

Do there exist $i \neq j$ such that $|x_i - x_j| < \varepsilon$ holds?

❖ ε-Closeness can be regarded as the **decision version** of MinGap

So can we say that ε-Closeness is **easier** than MinGap?

❖ Any way, it is well known that ...

The complexity of the ε-Closeness problem is $\Theta(n \log n)$

❖ Claim: $\varepsilon\text{-Closeness} \leq_N VD_{sorted}$