For simplicity assume $m = n$.
$O^*(n^{2-\frac{2}{d+1}}) = O^*(n^{\frac{3}{2}})$ by reducing to halfspace range counting in 3D and combining partition and cutting [2], or $O(n\sqrt{n}\log^2 n)$ [1] with near-linear space, which is optimal within polylog factors.

Queries on Number of Points Inside a Circle

Submission Detail

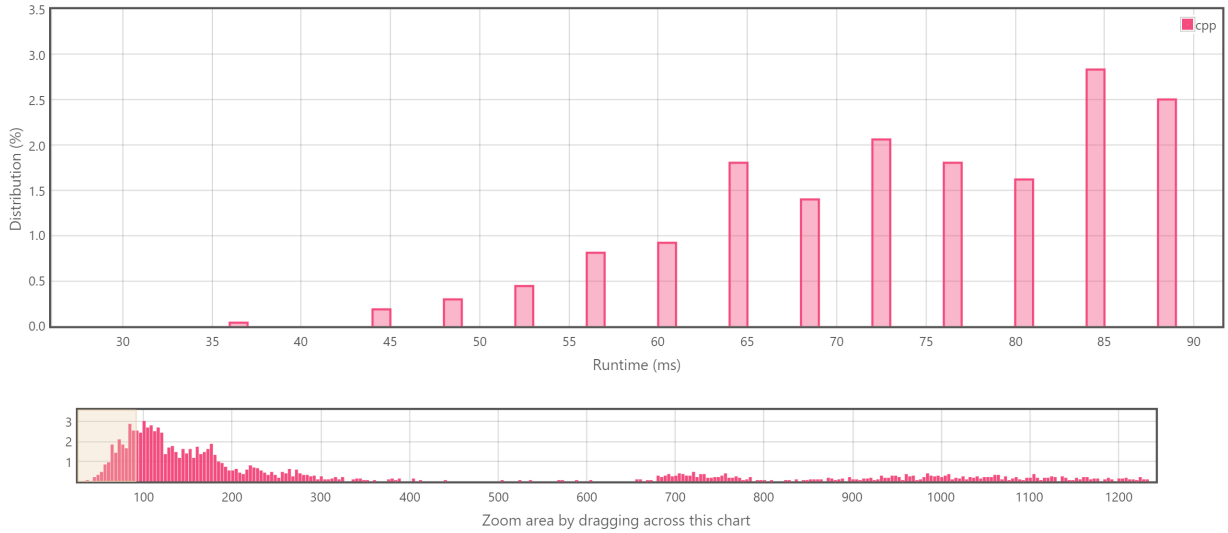
66 / 66 test cases passed.

Status: Accepted

Runtime: **24 ms**
Memory Usage: **16.1 MB**

Submitted: **0 minutes ago**

Accepted Solutions Runtime Distribution



Runtime: 24 ms, faster than 100.00% of C++ online submissions for Queries on Number of Points Inside a Circle.

Memory Usage: 16.1 MB, less than 90.61% of C++ online submissions for Queries on Number of Points Inside a Circle.

References

[1] Bernard Chazelle and Emo Welzl. Quasi-optimal range searching in spaces of finite vc-dimension. *Discrete & Computational Geometry*, 4(5):467–489, 1989.

[2] Jiří Matoušek. Efficient partition trees. *Discrete & Computational Geometry*, 8(3):315–334, 1992.