

Tutorial 8: kd-trees

1. Build a kd-tree using the following points: $(1, 4)$, $(2, 5)$, $(3, 2)$, $(4, 7)$, $(7, 3)$, $(6, 1)$, $(5, 6)$, $(3, 7)$.
2. Create a set of n points and a range-query such that doing the range-query on the *kd*-tree of the points requires $\Omega(\sqrt{n})$ boundary-nodes.
3. Show how to build a kd-tree in $O(n \log n)$ worst-case time (without median-finding) by pre-sorting the list of points.