

Heuristic to Generate Random X-Monotone Polygons

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Abstract : A heuristic has been designed to generate a random simple monotone polygon from a given set of 'n' points lying on a 2-Dimensional plane. Our heuristic generates a random monotone polygon in $O(n)$ time after $O(n \log n)$ preprocessing time which is improved over the previous work where a random monotone polygon is produced in the same $O(n)$ time but the preprocessing time is $O(k)$ for $n < k < n^2$. However, our heuristic does not generate all possible random polygons with uniform probability. The space complexity of our proposed heuristic is $O(n)$.

Keywords : sorting, monotone polygon, visibility, chain

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