Heffernan, Paul J.
Linear-time algorithms for weakly-monotone polygons. (English) [Zbl 0792.68188]

Triangulating a simple polygon is possible in linear time. But the corresponding algorithm is too complex
to be considered practical. Simple optimal algorithms for special classes of polygons are interesting. The
author studies a new class of so-called weakly-monotone polygons which contains the monotone class.
The place in the hierarchy of simple polygons is discussed and a linear-time detection algorithm for the
class is given. The author shows how to triangulate a weakly monotone polygon \( P \) in linear time, without
prior knowledge of \( P \)’s weak-monotonicity. The algorithms are practical and conceptually simple.

Reviewer: H.-D. Hecker (Jena)

MSC:
68U05 Computer graphics; computational geometry (digital and algorithmic aspects)
68Q25 Analysis of algorithms and problem complexity

Keywords:
simple polygons; triangulation; linear-time algorithms

Full Text: DOI

References:

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