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Digital Geometry: Introduction and Bibliography

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Abstract

Digital geometry deals with geometrical properties of "digital objects", which are usually taken to be sets of lattice points in the discrete space $\mathbf{Z}^n$. Such objects are often the result of applying a "digitization" process to objects in the Euclidean space $\mathbf{R}^n$. A central theme in digital geometry is how to characterize digital objects that could be the digitizations of "real" objects that have given geometric properties. The literature on digital geometry dates back to the late 1960's. The report includes a bibliography of more then 900 papers on the subject, organized by topic. It outlines the main lines of development of the field, and indicates areas in which interesting problems remain open.

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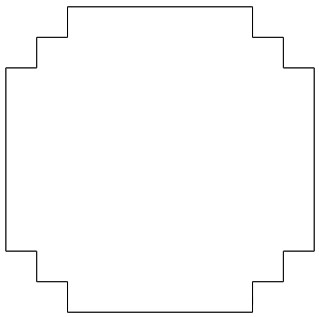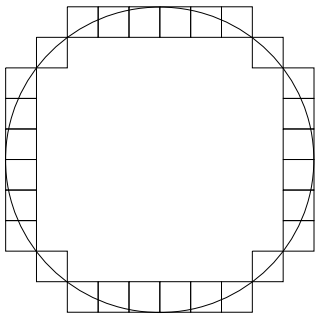
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