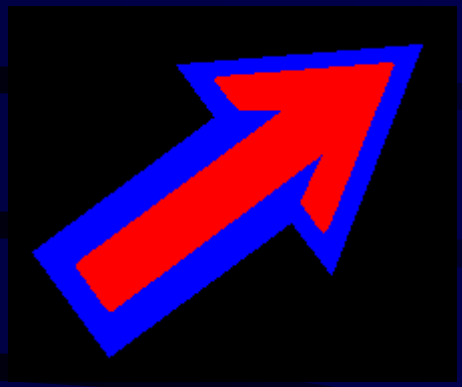


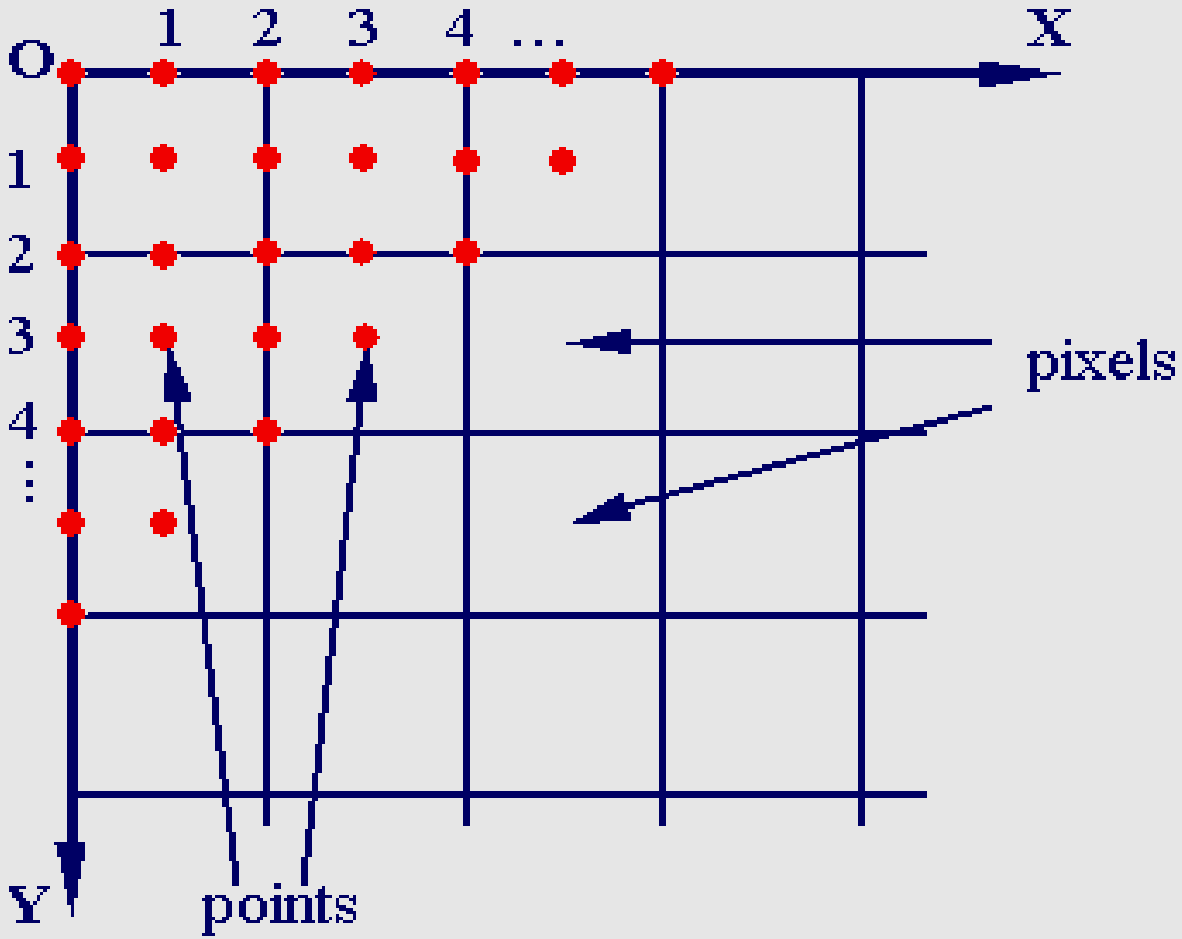
Skeleton extraction

Eugene P. Kuzmin

Denis V. Ivanov

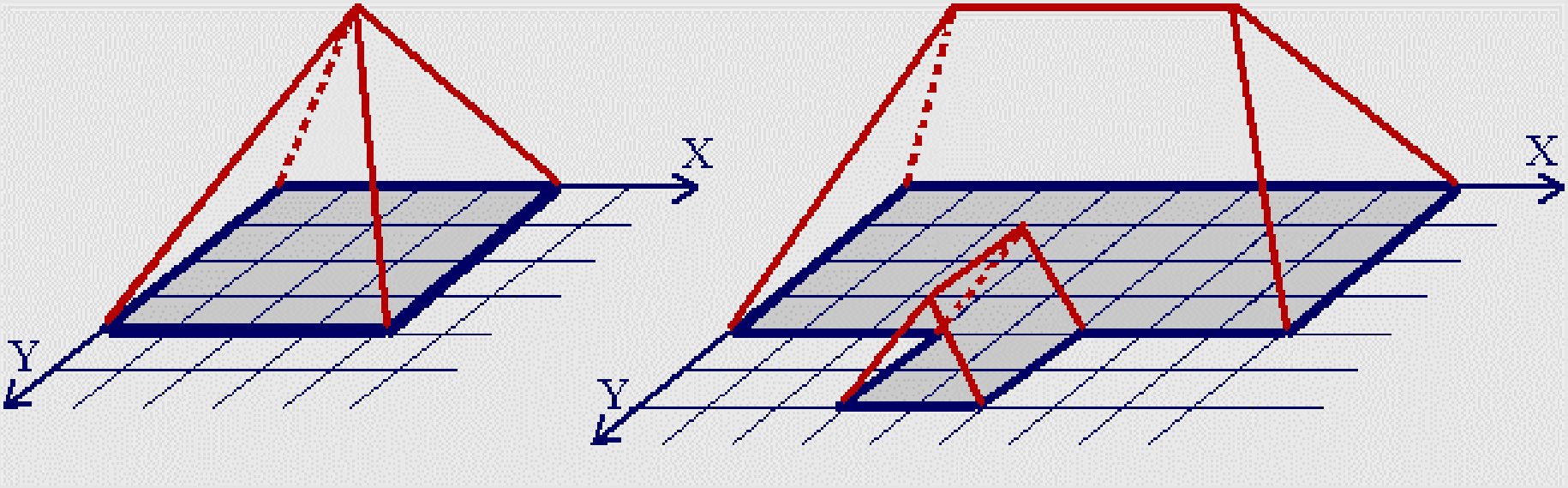
International Conference Graphicon 1998,
Moscow, Russia, http://www.graphicon.ru/

Discrete metric space on raster



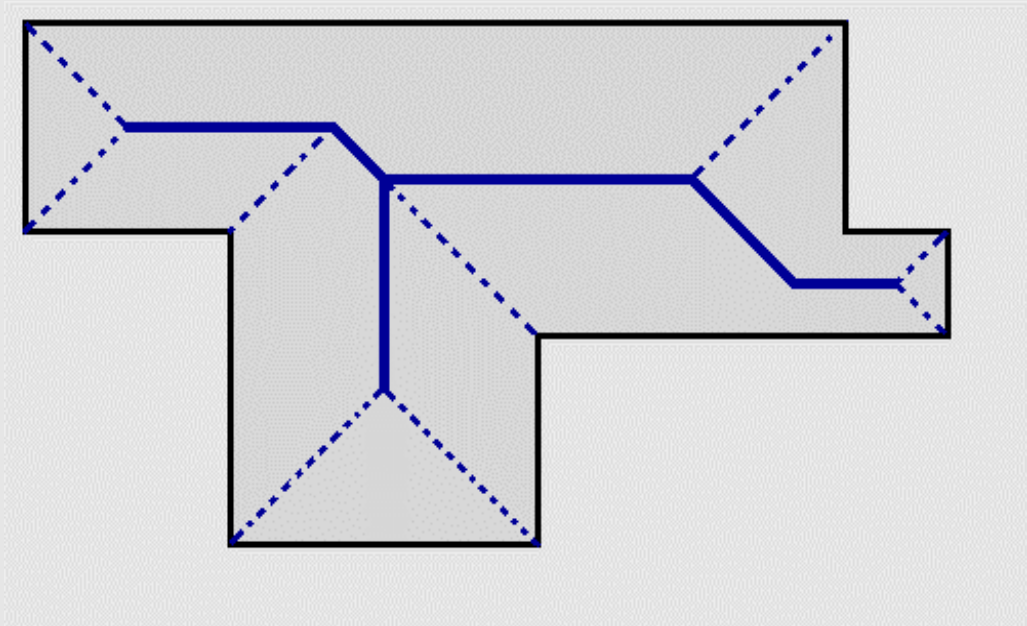
$$L_{\infty}^{2} : \rho(P,Q) = \max\left(|Px - Qx|, |Py - Qy|\right)$$

Shape surface examples



$$R(x, y) = \rho\left(P(x, y), \partial\Omega\right)$$

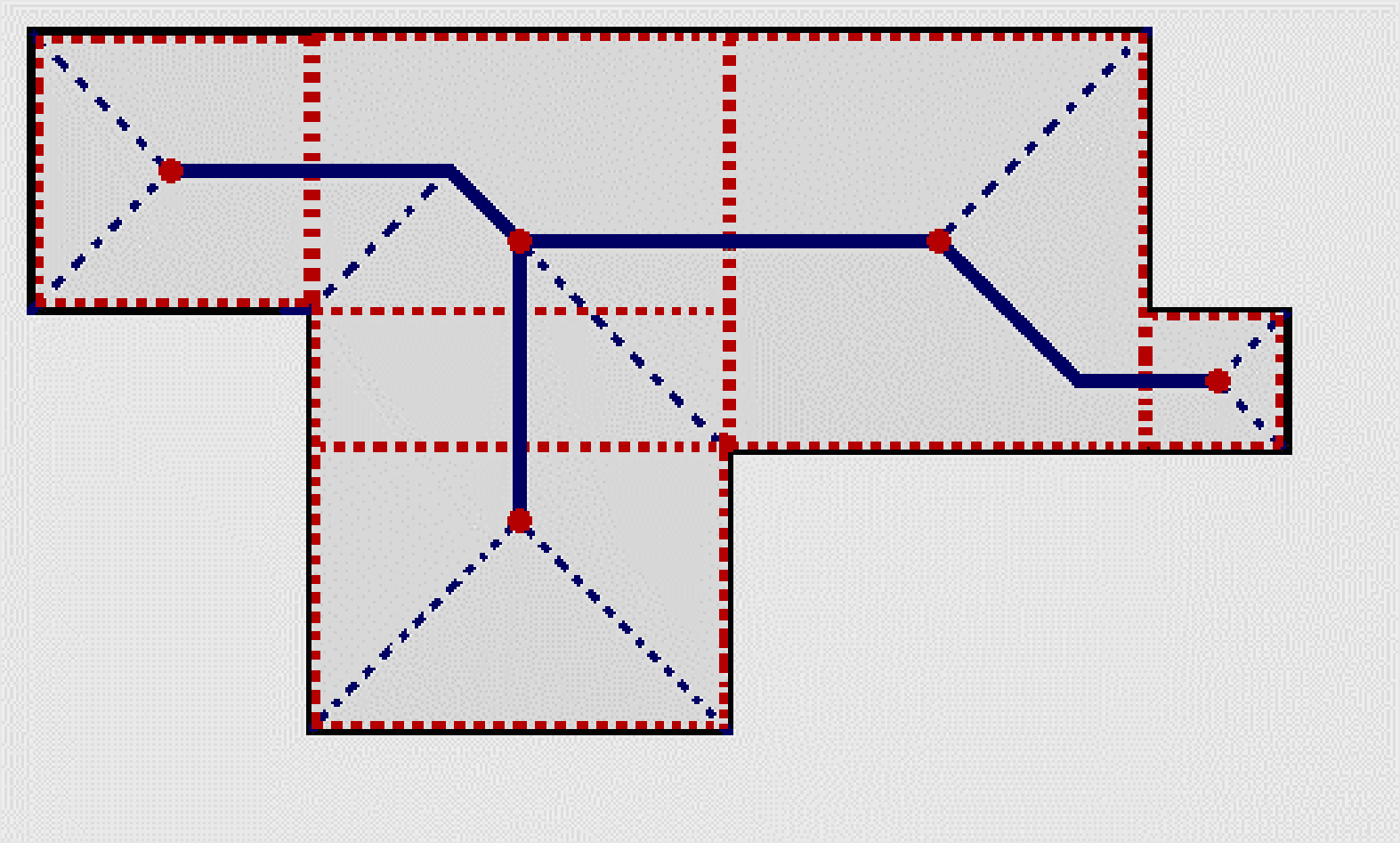
Set of ridges example



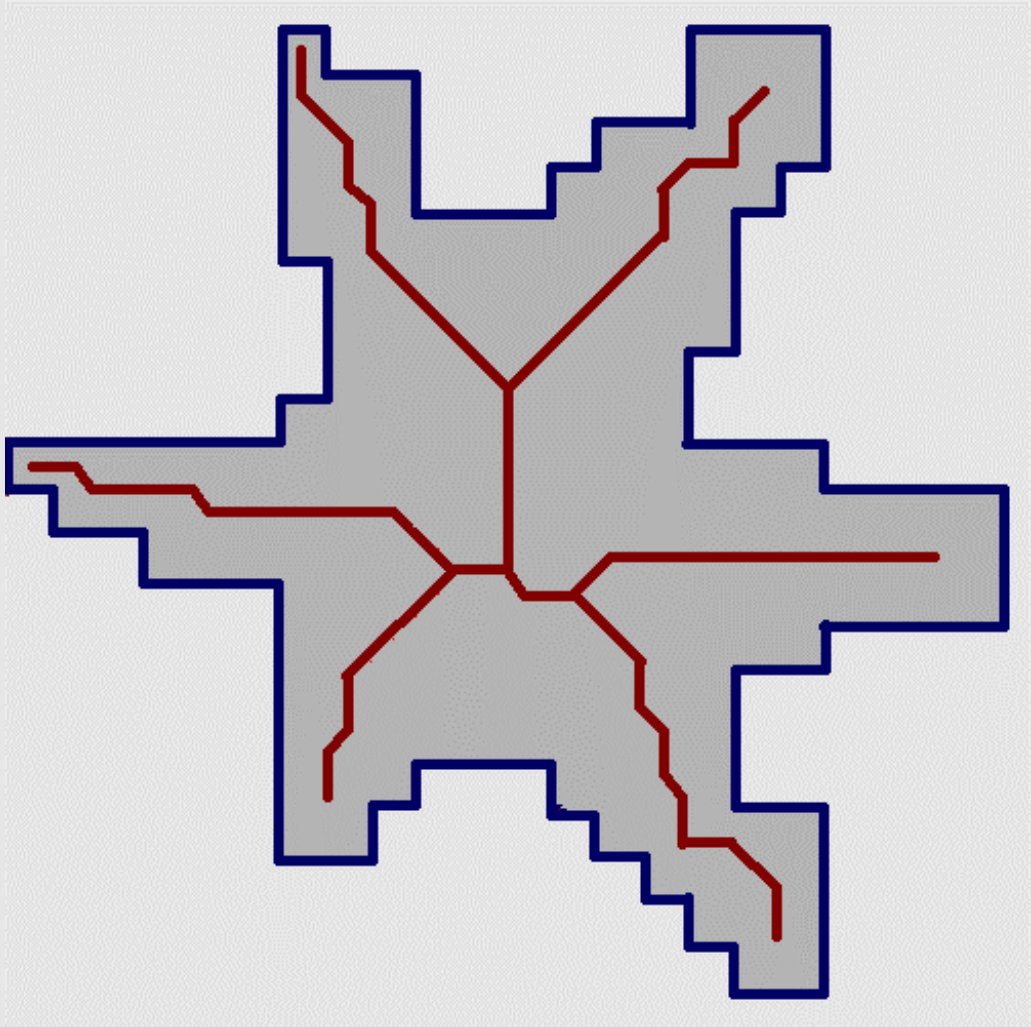
$$S = \bigcup_{i=1}^{n} R_i =$$

$$\left\{ X \in \Sigma \middle| \exists P, Q \in \partial\Omega : P \neq Q \wedge \rho(P, \Pr(X)) = \rho(Q, \Pr(X)) \right\}$$

Shape reconstruction



Skeleton example



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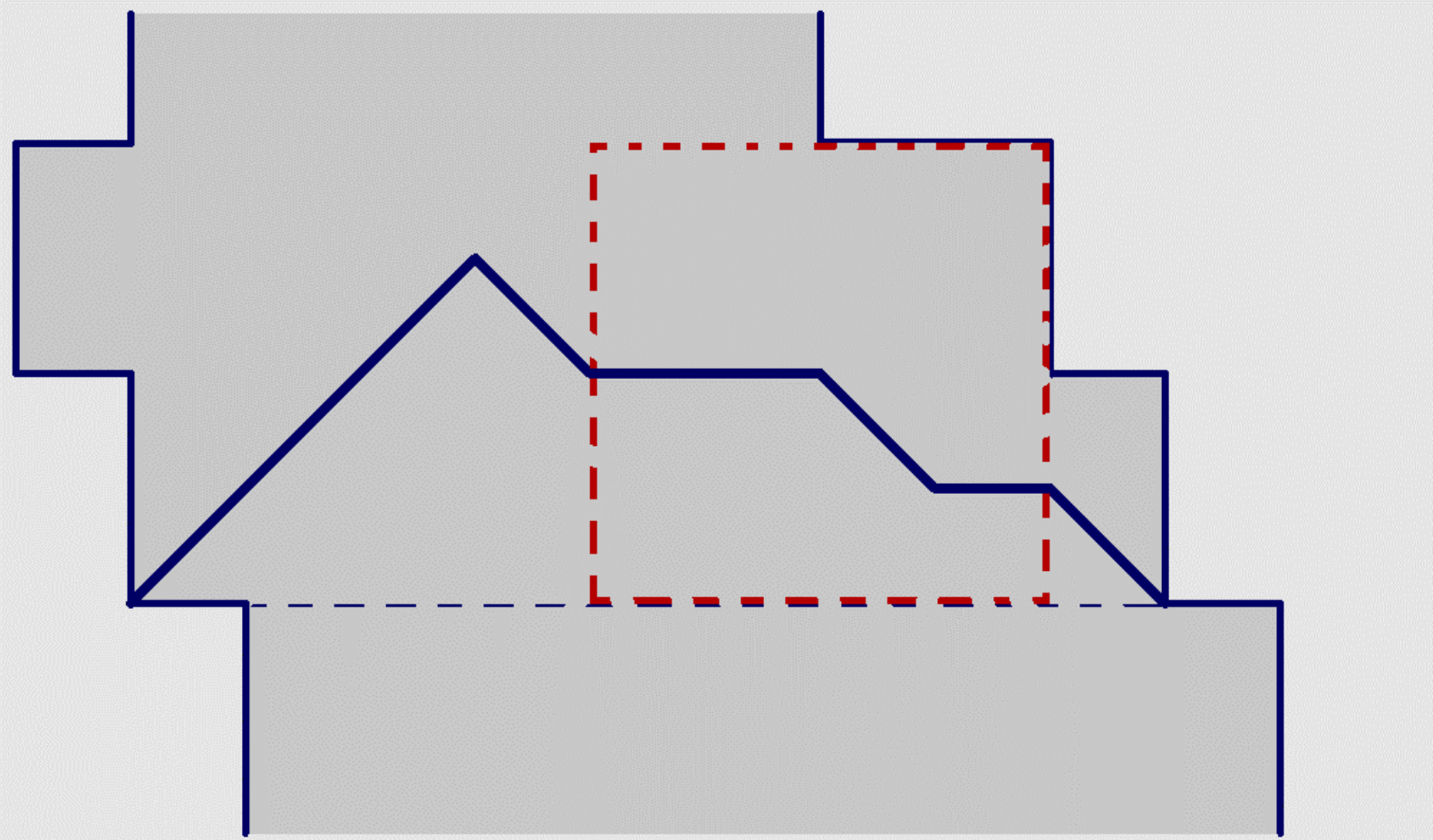
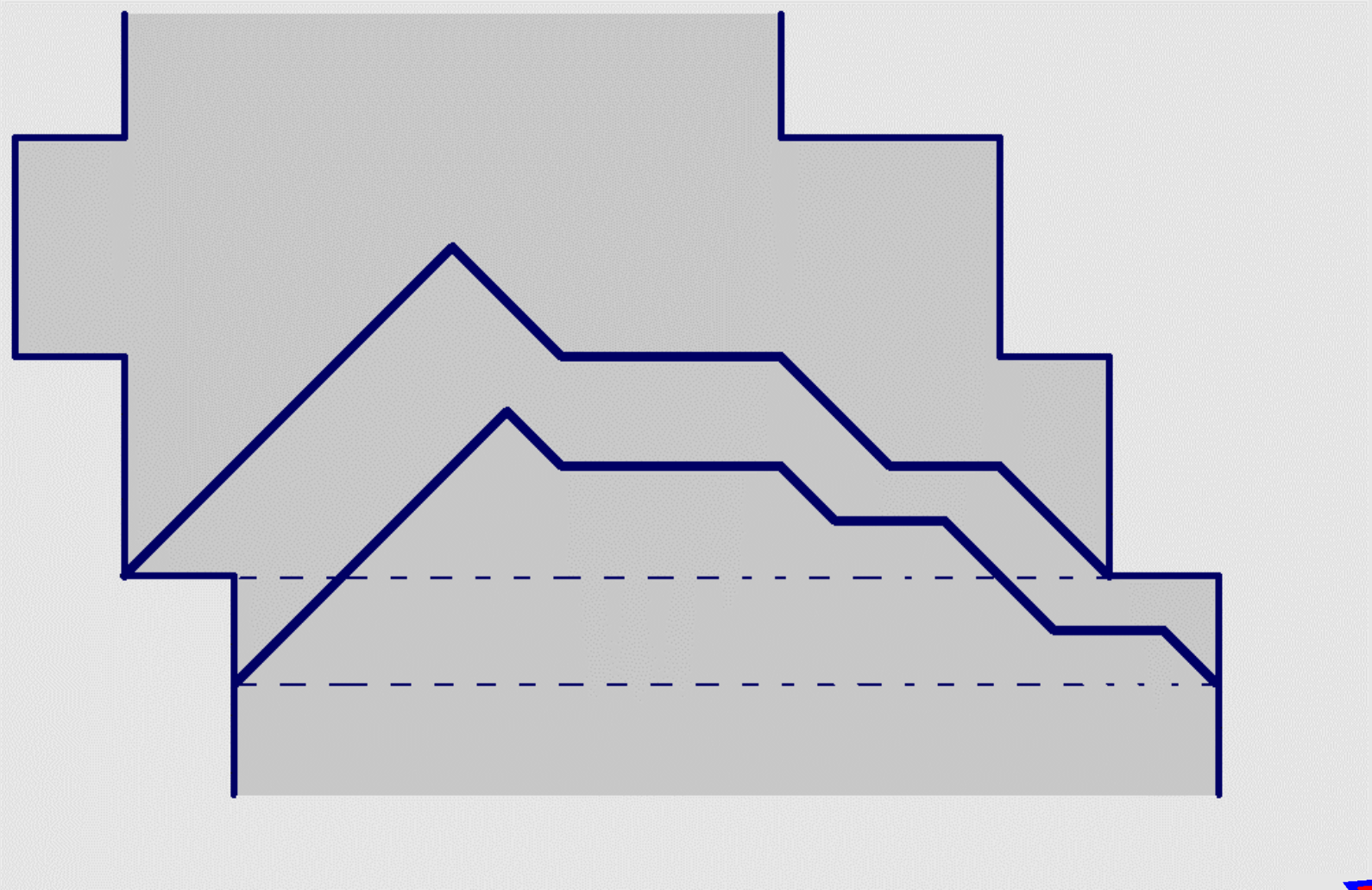
Chord example



Chord building



Algorithm scheme

while (*not all lines are exhausted*)

{

1. Form the new chord
2. Update the skeleton points

}