

Exercise Computer graphics

Line clipping according to Cyrus Beck – (till March 31, 2009)

Exercise 10: Line clipping

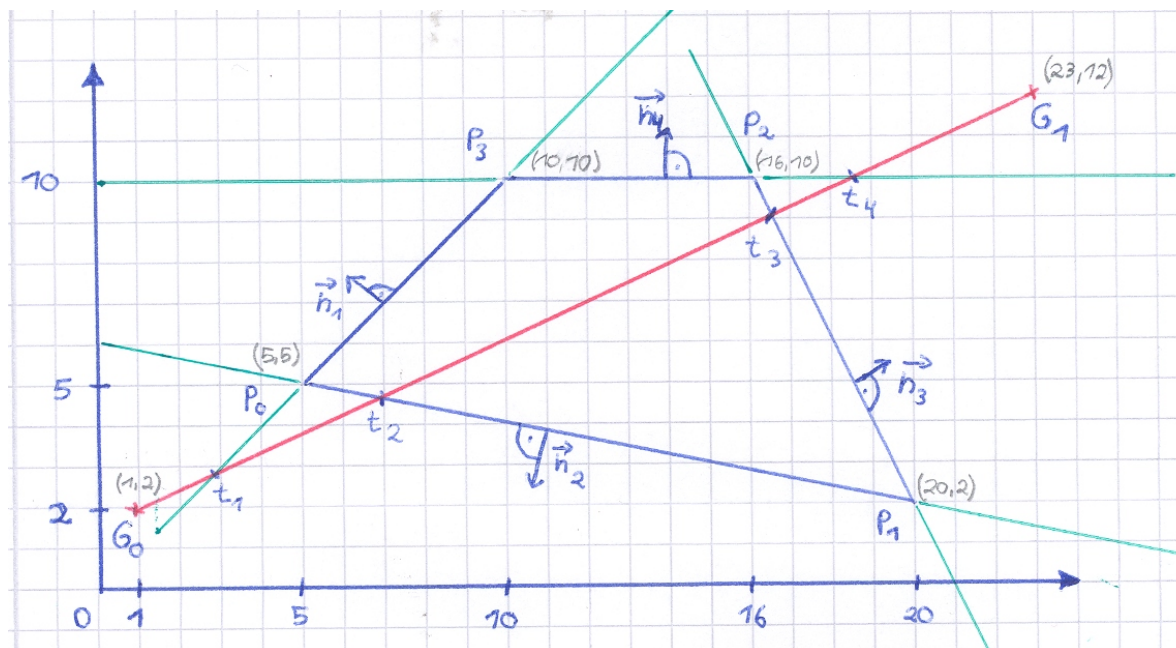
Let a clipping polygon be defined by the vertices (5, 5), (20, 2), (16, 10), (10, 10)

and a line between (1,2) and (23, 12)

(a) Perform the Cyrus Beck clipping algorithm. Find out for each intersection parameter t whether it is “entering” or “leaving” and finally determine which parameters for t are of interest only.

(b)

In the general case of an n -sided polygon: How many intersections have to be performed at most for every line to be displayed?



Exercise Computer graphics

Seam carving

Exercise 11:

The graph below displays a small image with gray values in the knots.

Find the optimal path from the upper line of pixels to the lower one which traverses as small gray value changes as possible. A gray values change is simply obtained as the absolute difference between two neighboring knots. The neighborhood relationships are denoted by the edges connecting the knots.

