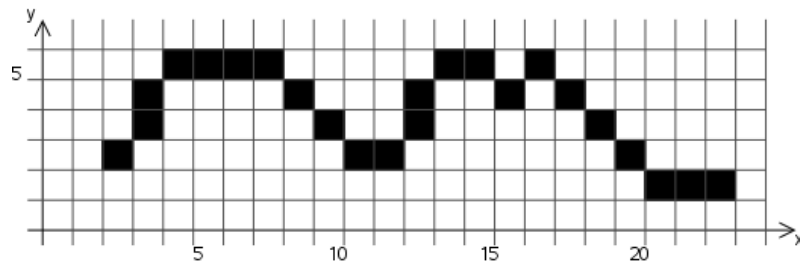


## Exercises for Spatial Databases and GIS

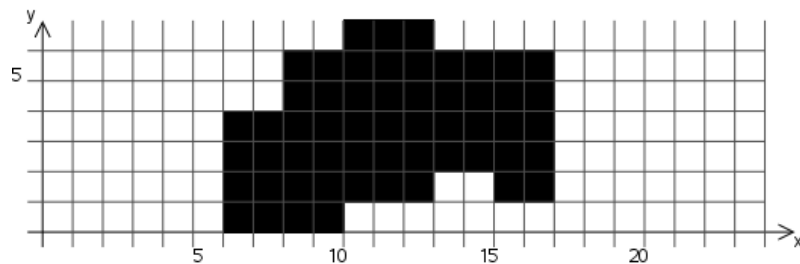
### Sheet 3 (until 17.11.2017)

#### Exercise 1 (Geometric Operations)

1. What steps are necessary to determine the area of the intersection of two polygons.
  - a. If both are given as vector geometry?
  - b. If both are given as raster geometry?
  - c. If one polygon is given as raster and the other as vector geometry?
  - d. Which of those cases is the easiest?
2. Compress the line using the chain code and calculate the length using the compressed line.



3. Compress the polygon using the blockcode and calculate the centroid using the compressed polygon.



## Exercise 2 (Shortest Path Problem)

The graph given below shows ICE-connections between some german cities. The weight of each edge is the time needed to cover that distance.

1. Calculate the path with the shortest driving time from Braunschweig to every other city using one of the three algorithms presented on slides 188 to 190.
2. Why did you choose that algorithm?

