

Exercises for Spatial Databases and GIS

Sheet 5 (until 05.12.2014)

Exercise 1 (Spatial Queries and Core SQL)

Give one SQL-Statement that retrieves the point having the shortest distance to the straight line segment with id 1, given the relations below:

POINT(id : integer, x : double, y : double)

LINESEGMENT(id : integer, xStart : double, yStart : double, m : double, b : double,
xEnd : double, yEnd : double)

m and b are the values for the equation: $y = mx + b$

Exercise 2 (Overlay Operations)

Which geometry type(s) does the result of the following operations have?

1. Intersection of two lines
2. Intersection of a point and a polygon
3. Subtraction of a line from a polygon
4. Subtraction of a point from a line
5. Union of two polygons
6. Union of a polygon and a line