

Practical 4 – Spatial Queries III

E-Learning

With the same data as we have it available in the database (userdemo schema):
<https://postgis.net/workshops/postgis-intro/index.html> see Chapters 19-24, Chapters 27-29

Exercise

Based on the New York City sample data (in the userdemo schema), design (spatial) SQL queries to solve the following tasks. More details regarding the New York City sample data, please refer to https://postgis.net/workshops/postgis-intro/about_data.html

- a) Create a 500 buffer zone for the "47th-50th Sts" subway station
- b) Which subway stations are within the 500 buffer zone of "47th-50th Sts"?
- c) For the above task, you can use ST_Within or ST_DWithin, are the results the same?
- d) What is the geometry of each borough in NYC (Tip: use ST_Union)?
- e) In the New York City sample data, you can get the geometry of borough Manhattan, using either nyc_census_blocks or nyc_neighborhoods. Please check whether the geometries created using nyc_census_blocks and nyc_neighborhoods are spatially equal or not (Tip: Chapter 22 Equality)
- f) List the 10 closest subway stations to the "47th-50th Sts" subway station (Tip: use Nearest-Neighbour Searching, chapter 27)
- g) List the 10 closest streets to the "47th-50th Sts" subway station (Tip: use Nearest-Neighbour Searching, chapter 27)