McCormick
Northwestern Engineering
Department of Electrical Engineering and Computer Science

MSIA 430 : Introduction to Software Tools for BI

Spring 2023 Quarter

Project 2

due: Thursday, May 11 (11:59PM)

Instructor: Goce Trajcevski **(**g-trajcevski@northwestern.edu)

TA: Elliot Gardner (elliot.gardner1@northwestern.edu)

Objective: The purpose of this assignment is for you to practice the concepts from managing/querying spatial data, using QGIS as a tool.

In your last two labs, you experienced two basic scenarios with spatial data: overlaying different sources, and querying two different sources (i.e., executing the join operation over spatial datasets in a "visual manner", in contrast to the SQL statements for Spatial Databases covered in class). This assignment is centered along the 2nd scenario.

More specifically, you are to use the same two datasets for QGIS that were used in the lab: (i) the shapefile of Borough boundaries of New York city; (ii) the shapefile of Street Pavement Rating for all streets in New York city. You are required to implement the following queries in QGIS:

Q1: What is the total number of streets (of any rating) in each of the NYC Boroughs;

Q2: What is the total number of streets with GOOD rating in each of the NYC Boroughs;

(Extra Credit (12%)): Q3: What is the total length of the streets' segments in each of the NYC Boroughs.

What to turn in:

For each of the queries, the output (i.e., the answer) will be a new "thematic layer", and for each such layer obtained as an outcome of the join, you will have attributes table (adding the newly-defined attribute, as part of the "group by"). For this assignment, you are expected to submit the answers (i.e., respective tables) for each of the queries above.
This is a team-assignment (i.e., you are to work in teams of two students) and the teams are to be the same ones created for the previous assignment(s). Kindly, put the names of the team members in a file "team-members.txt". Save this file, along with the file/document containing your solutions, in a folder named "Project-2". Create a zip-file for that folder and upload it on Canvas.

Good luck.