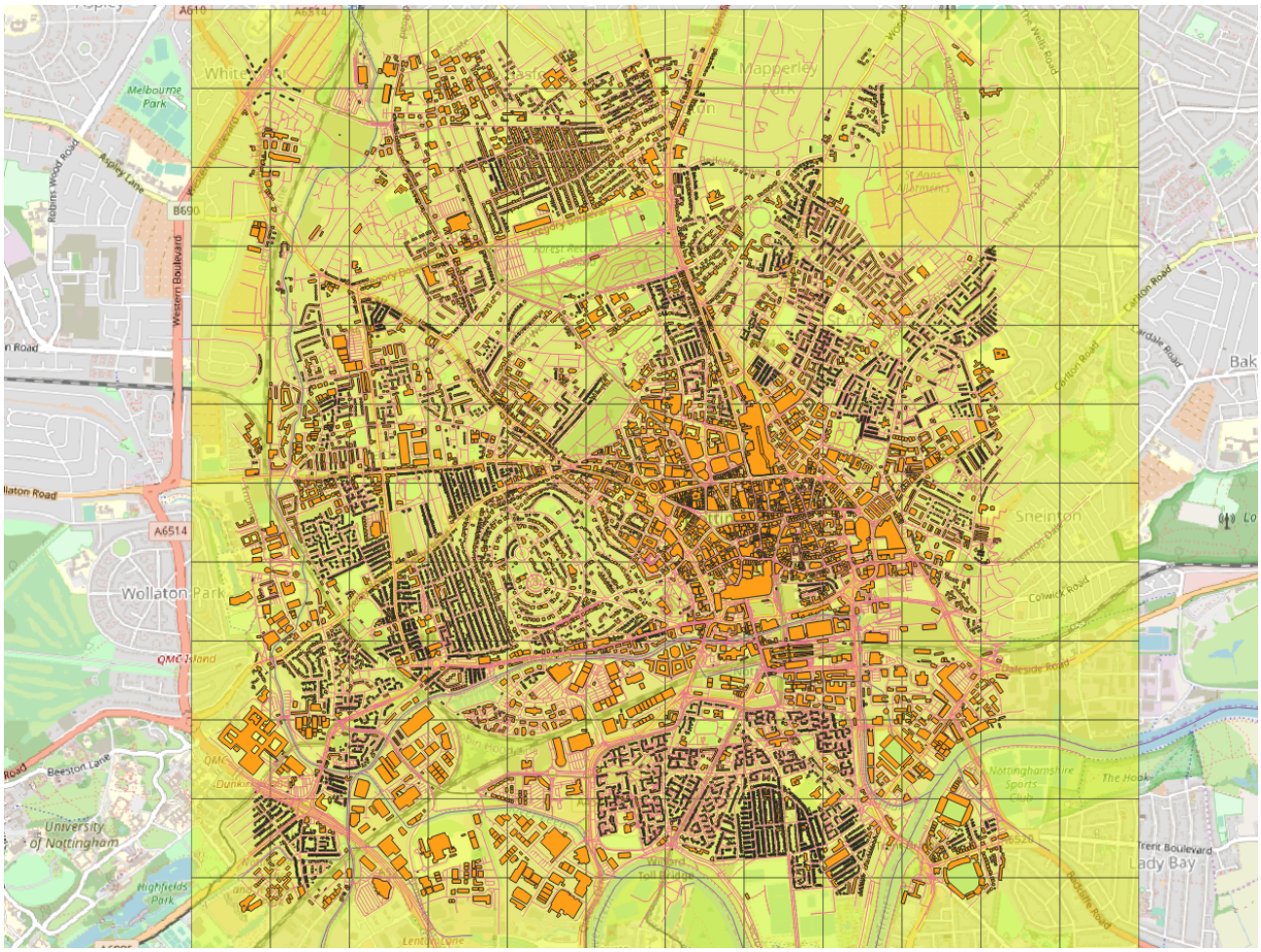
CS621 Week 9 – Self Assessment

Working with Vector Grids for Choropleth Maps in QGIS and PostGIS.

You have been given three ESRI Shapefiles from Nottingham, England. These Shapefiles contain OpenStreetMap data from GeoFabrik. The shapefiles are:

- Nottingham City Rivers (linestring)
- Nottingham City Roads (linestring)
- Nottingham City Buildings (polygons)

All of these Shapefiles are provided in EPSG:27700 (British National Grid) A screenshot is shown of all of the three Shapefiles and the Grid layered over the OSM Standard Map of Nottingham City Center.



TASK 1: You are required to create a Vector Grid in QGIS.

NOTE – When you are creating the grid by using Canvas Extend – zoom in using QGIS so that the three datasets take up the majority of the canvas area. This will mean that the Vector Grid will have less cells, which is preferrable to having a grid with many many cells (most of which will be empty)

As show in Week 9 lectures – generate a Choropleth map which colors each grid cell using the following calculation: **The total number of objects (river, road or building) which INTERSECTS with a given grid cell.**

Use DB Manager in QGIS as outlined in Week 9's Lectures. Please be patient with the import of the Nottingham City Buildings layer as this might take some time.

You will need to write a number of Object-In-Polygon queries in PostGIS in order to calculate the total number of objects in each of the cells.

You should create the Choropleth map with the following characteristics.
You should use 5 classes using Natural Breaks (Jenks). You should use the Reds color ramp.

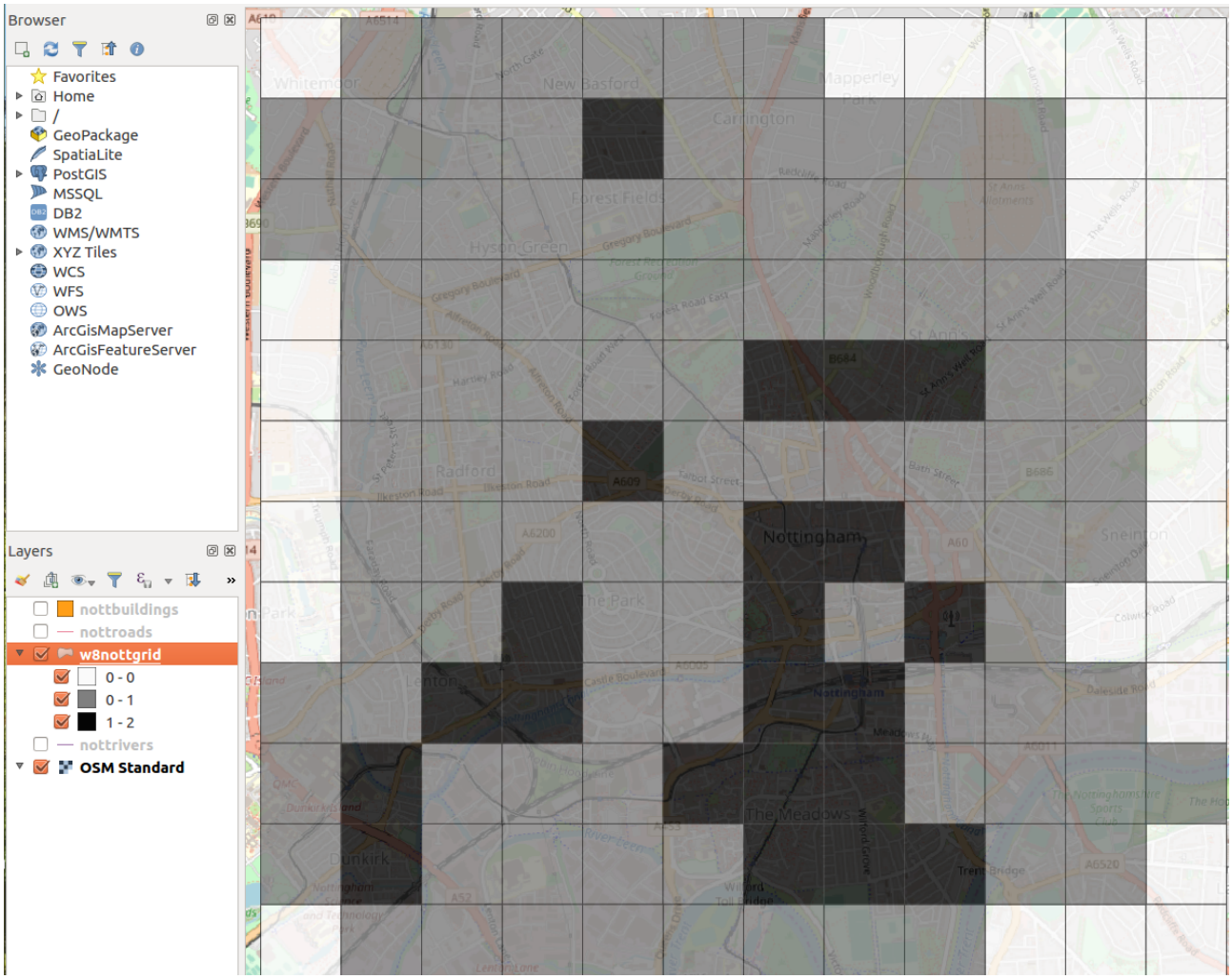
TASK 2:

Building upon the work done in Task 1 perfom the following task. Create a new column in the Grid dataset which is a INTEGER data type.

Update this new column as follows.

If the total number of objects in any cell is zero, then assign this new column the value of zero.
If the total number of objects in any cell is greater than zero but less than 10, then assign this new column a value of 1.
Otherwise, assign a value of 2.

Draw a THREE class Choropleth map using this new colum. Use the 'Greys' Color Ramp. A solution will look similar to this grid (but will not be the same)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PostGIS
MSSQL
DB2
WMS/WMTS
XYZ Tiles
WCS
WFS
OWS
ArcGisMapServer
ArcGisFeatureServer
GeoNode
Layers
nottbuildings
nottroads
w8nottgrid
0 - 0
0 - 1
1 - 2
nottrivers
OSM Standard
Nottingham
Radford
Lenton
The Park
Forest Fields
Hyson Green
New Basford
Carrington
Mapperley Park
St Ann's
Sneinton
The Meadows
Dunkirk
Trent Bridge