

## Population

Download DataFrame  
with city codes  
from database

```
{ 'Monterrey':  
  'mpos': ['19001',  
          '19006', '19009'...]}
```

Iterate over cities  
and metropolitan areas  
and extract their  
codes

for codes in  
metropolitan areas  
(cities)

query

Download **municipality  
polygon** GeoDataFrame  
from database



Extract min and  
max values for  
**x** and **y**

query

Download **nodes**  
GeoDataFrame  
from database

query

Download **AGEB**  
GeoDataFrame with  
Census from data base



Add census data  
from **AGEB** to  
**nodes**

Save **nodes**

query

Download **hex bins**  
GeoDataFrame from  
data base



Join census data  
from **nodes** to  
**hex bins**

Save **hex bins**