Capstone Project — The Battle of Neighbourhoods

<u>Introduction</u>

New Delhi is the capital city of India. It is a part of the city of Delhi's 11 districts. The city itself has a population of 257,803. However, the much larger metro area has a population that exceeds 26 million.

New Delhi are used interchangeably to refer to the National Capital Territory of Delhi (NCT), these are two distinct entities, with New Delhi forming a small part of Delhi. The National Capital Region is a much larger entity comprising the entire NCT along with adjoining districts in neighboring states.

The official language of New Delhi and the one that is most widely spoken is Hindi. However, English is also spoken as a formal language within businesses and government agencies. Over last decades it is continuously grow because of the city's important role in government and commercial business.

With its diverse culture, comes diverse food items. There are many restaurants in New Delhi City, each belonging to different categories like Chinese, Italian, and French etc. So as part of this project, we will list and visualize all major parts of New Delhi City.

Questions that can be asked using the above mentioned datasets

- What is best location in New Delhi City for Chinese Cuisine?

- Which areas have large number of Chinese Restaurant Market?

- Which all areas have less number of restaurant?

- Which is the best place to stay if I prefer Chinese Cuisine?

- What places are have best restaurant in New Delhi?

Data

For this project we need the following data :

- New Delhi Restaurants data that contains list Locality, Restaurant name, rating along with their latitude and longitude.
    - Data source : Zomato kaggel dataset
    - Description: This data set contains the required information. And we will use this data set to explore various locality of New Delhi city.
- Nearby places in each locality of new delhi city.
    - Data source : Fousquare API
    - Description: By using this api we will get all the venues in each neighborhood.

Approach

- Collect the New Delhi city data from Zomato kaggel dataset
- Using FourSquare API we will find all venues for each neighborhood.
- Filter out all venues that are nearby by locality.
- Using aggregative rating for each restaurant to find the best places.
- Visualize the Ranking of neighborhoods using folium library(python)

In [1]:

```python
import pandas as pd
import numpy as np
import requests # library to handle requests
from pandas.io.json import json_normalize # tranform JSON file into a pandas dataframe

# Matplotlib and associated plotting modules
import matplotlib.cm as cm
import matplotlib.colors as colors
# import k-means from clustering stage
from sklearn.cluster import KMeans

!conda install -c conda-forge folium=0.5.0 --yes # uncomment this line if you haven't completed the Foursquare API lab
import folium # map rendering library
! pip install geocoder
import geocoder
```

Collecting package metadata (current_repodata.json): done
Solving environment: failed with initial frozen solve. Retrying with flexible solve.
Collecting package metadata (repodata.json): done
Solving environment: failed with initial frozen solve. Retrying with flexible solve.
Solving environment: \
Found conflicts! Looking for incompatible packages.
This can take several minutes.   Press CTRL-C to abort.

-failed

UnsatisfiableError: The following specifications were found
to be incompatible with the existing python installation in your environment:

Specifications:

  - cffi -> python[version='2.7.*|3.5.*|3.6.*|3.6.12|>=3.6,<3.7.0a0|>=3.7,<3.8.0a0|>=3.9,<3.10.0a0|>=3.8,<3.9.0a0|3.6.9|3.6.9|3.6.9|>=2.7,<2.8.0a0|3.6.9|>=3.5,<3.6.0a0|3.4.*',build='0_73_pypy|2_73_pypy|4_73_pypy|3_73_pypy|1_73_pypy']
  - rsa -> python[version='2.7.*|3.4.*|3.5.*|3.6.*']

Your python: python=3.7

If python is on the left-most side of the chain, that's the version you've asked for.
When python appears to the right, that indicates that the thing on the left is somehow
not available for the python version you are constrained to. Note that conda will not
change your python version to a different minor version unless you explicitly specify
that.

The following specifications were found to be incompatible with each other:

Output in format: Requested package -> Available versions

Package libpng conflicts for:
gst-plugins-base -> libpng[version='>=1.6.37,<1.7.0a0']
freetype -> libpng[version='1.6.*|>=1.6.21,<1.7|>=1.6.22,<1.6.31|>=1.6.32,<1.6.35|>=1.6.34,<1.7.0a0|>=1.6.35,<1.7.0a0|>=1.6.37,<1.7.0a0|>=1.6.28,<1.7|>=1.6.23,<1.7|>=1.6.32,<1.7.0a0']
matplotlib -> libpng[version='>=1.6.23,<1.7|>=1.6.37,<1.7.0a0|>=1.6.36,<1.7.0a0|>=1.6.35,<1.7.0a0|>=1.6.34,<1.7.0a0|>=1.6.32,<1.7.0a0']
ibm-wsrt-py37main-main -> libpng==1.6.37[build=*]
fontconfig -> libpng[version='>=1.6.21,<1.7|>=1.6.22,<1.6.31|>=1.6.32,<1.6.35|>=1.6.34,<1.7.0a0|>=1.6.35,<1.7.0a0|>=1.6.37,<1.7.0a0|>=1.6.28,<1.7|>=1.6.23,<1.7|>=1.6.32,<1.7.0a0']
qt -> libpng[version='>=1.6.28,<1.7|>=1.6.35,<1.7.0a0|>=1.6.37,<1.7.0a0|>=1.6.36,<1.7.0a0|>=1.6.34,<1.7.0a0|>=1.6.32,<1.7.0a0']
matplotlib-base -> libpng[version='>=1.6.35,<1.7.0a0|>=1.6.37,<1.7.0a0']
tensorflow-base -> libpng[version='>=1.6.37,<1.7.0a0']

Package entrypoints conflicts for:
keyring -> entrypoints

ibm-wsrt-py37main-main -> entrypoints==0.3[build=*]
jupyter_client -> entrypoints
nbconvert -> entrypoints[version='>=0.2.2']

Package cloudpickle conflicts for:
ibm-wsrt-py37main-main -> cloudpickle==1.5.0[build=*]
scikit-image -> cloudpickle[version='>=0.2.1']

Package cryptography conflicts for:
ibm-wsrt-py37main-main -> cryptography==3.2.1[build=*]
pyjwt -> cryptography[version='>=1.0|>=1.4']
pyopenssl -> cryptography[version='>=1.3|>=1.3.4|>=1.9|>=2.1.4|>=2.2.1|>=2.8|
>=3.2']
secretstorage -> cryptography
urllib3 -> cryptography[version='>=1.3.4']
oauthlib -> cryptography

Package libgcc-ng conflicts for:
pyqt -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
freetds -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.2.0']
sip -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
libprotobuf -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
mkl-service -> libgcc-ng[version='>=7.2.0|>=7.3.0|>=7.5.0']
kiwisolver -> libgcc-ng[version='>=7.2.0|>=7.3.0|>=7.5.0']
tornado -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
cx_oracle -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
regex -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
snappy -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
fontconfig -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
pyzmq -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
yarl -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
libuuid -> libgcc-ng[version='>=7.2.0|>=7.3.0|>=9.3.0']
pyodbc -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
jpeg -> libgcc-ng[version='>=7.2.0|>=7.3.0|>=7.5.0']
numexpr -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
multidict -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
markupsafe -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
dbus -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
pcre -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.2.0']
zeromq -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
scipy -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
gstreamer -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
h5py -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
astropy -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
protobuf -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
python=3.7 -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
grpcio -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
blas -> libgcc-ng[version='>=7.3.0|>=7.5.0|>=9.3.0']
numpy-base ->libgcc-ng[version='>=7.2.0|>=7.3.0']
expat -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.2.0']
icu -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
ninja -> libgcc-ng[version='>=7.2.0|>=7.3.0|>=7.5.0|>=9.3.0']
cffi -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
matplotlib -> libgcc-ng[version='>=7.2.0|>=7.3.0']
cytoolz -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
brotlipy -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0']
sqlalchemy -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']

blosc -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
c-ares -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0']
freetype -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
libxml2 -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
fastcache -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
libxcb -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.2.0']
scikit-image -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
wrapt -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
statsmodels -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
libffi -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
libxgboost -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=5.4.0|>=7.2.0']
unixodbc -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
xz -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
ncurses -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
matplotlib-base -> libgcc-ng[version='>=7.3.0|>=7.5.0']
libpq -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
pyrsistent -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0']
readline -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
tensorflow-base -> libgcc-ng[version='>=5.4.0|>=7.2.0']
lxml -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
zstd -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
psycopg2 -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
openssl -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
glib -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
lzo -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
tk -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
aiohttp -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
bzip2 -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
libedit -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
tensorboard -> libgcc-ng[version='>=7.2.0|>=7.3.0']
pytables -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
py-xgboost -> libgcc-ng[version='>=4.9|>=7.3.0|>=5.4.0|>=7.2.0']
pillow -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
cryptography -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
libsodium -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
mkl_fft -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
gmp -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
krb5 -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
lcms2 -> libgcc-ng[version='>=7.3.0|>=7.5.0']
sqlite -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
pyyaml -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
pandas -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
hdf5 -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
pytorch -> libgcc-ng[version='>=5.4.0|>=7.3.0']
ibm-wsrt-py37main-main -> libgcc-ng==9.1.0[build=*]
libxslt -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.2.0']
libtiff -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
lz4-c -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
mkl_random -> libgcc-ng[version='>=7.2.0|>=7.3.0|>=7.5.0']
pywavelets -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
biopython -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
yaml -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
pymssql -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0']
qt -> libgcc-ng[version='>=7.2.0|>=7.3.0|>=7.5.0']
libpng -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
numpy -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']

scikit-learn -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
zlib -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
mistune -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
gst-plugins-base -> libgcc-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']

Package jupyter_core conflicts for:
nbconvert -> jupyter_core
nbformat -> jupyter_core
ibm-wsrt-py37main-main -> jupyter_core==4.6.3[build=*]
notebook -> jupyter_core[version='>=4.4.0|>=4.6.0|>=4.6.1']
jupyter_client -> jupyter_core[version='>=4.6.0']

Package statsmodels conflicts for:
ibm-wsrt-py37main-main -> statsmodels==0.11.1[build=*]
seaborn -> statsmodels[version='>=0.5.0|>=0.8.0']

Package glib conflicts for:
gst-plugins-base -> glib[version='>=2.53.6,<3.0a0|>=2.56.1,<3.0a0|>=2.58.2,<2.59.0a0|>=2.58.3,<3.0a0']
dbus -> glib[version='>=2.53.6,<3.0a0|>=2.56.1,<3.0a0|>=2.56.2,<3.0a0|>=2.58.3,<3.0a0|>=2.63.1,<3.0a0']
qt -> glib[version='>=2.53.6,<3.0a0|>=2.56.1,<3.0a0|>=2.56.2,<3.0a0|>=2.58.3,<3.0a0']
ibm-wsrt-py37main-main -> glib==2.65.0[build=*]
gstreamer -> glib[version='2.51.*|>=2.55.0,<2.56.0a0|>=2.56.2,<2.57.0a0|>=2.58.2,<2.59.0a0|>=2.58.3,<3.0a0|>=2.56.1,<3.0a0|>=2.53.6,<3.0a0']

Package python-dateutil conflicts for:
ibm-wsrt-py37main-main -> python-dateutil==2.8.1[build=*]
botocore -> python-dateutil[version='>=2.1,<2.7.0|>=2.1,<2.8.1|>=2.1,<3.0.0']
pandas -> python-dateutil[version='>=2.5.*|>=2.6.1|>=2.7.3']
jupyter_client -> python-dateutil[version='>=2.1']
matplotlib -> python-dateutil
matplotlib-base -> python-dateutil[version='>=2.1']
bokeh -> python-dateutil[version='>=2.1']

Package typing_extensions conflicts for:
aiohttp -> typing_extensions[version='>=3.6.5']
bokeh -> typing_extensions[version='>=3.7.4']
ibm-wsrt-py37main-main -> typing_extensions==3.7.4.2[build=*]

Package parso conflicts for:
jedi -> parso[version='0.1.0|>=0.1.0,<0.2|>=0.2.0,<0.8.0|>=0.3.0,<0.8.0|>=0.5.0,<0.8.0|>=0.5.2,<0.8.0|>=0.7.0,<0.8.0|>=0.7.0|>=0.5.2|>=0.5.0|>=0.3.0|>=0.2.0']
ibm-wsrt-py37main-main -> parso==0.7.0[build=*]

Package python_abi conflicts for:
sip -> python_abi[version='3.6.*|3.7.*|3.8.*|3.9.*',build='*_cp37m|*_cp36m|*_cp38|*_cp39']
multidict -> python_abi[version='3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp36m|*_cp37m|*_cp39|*_pypy36_pp73|*_cp38']
cytoolz -> python_abi[version='3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp36m|*_cp37m|*_cp39|*_cp38']
ipython -> python_abi[version='3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp36m|*_pypy36_pp73|*_cp37m|*_cp38|*_cp39']

sympy -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp38
|*_cp39|*_cp37m|*_cp36m|*_pypy36_pp73|*_cp27mu']
typing_extensions -> python_abi[version='2.7.*|3.6|3.6|3.8.*|3.7.*',build
='*_cp36m|*_pypy36_pp73|*_cp38|*_cp37m|*_cp27mu']
mock -> python_abi[version='2.7.*|3.6|3.6.*|3.9.*|3.7.*|3.8.*',build='*_cp37m
|*_cp36m|*_cp39|*_pypy36_pp73|*_cp38|*_cp27mu']
pickleshare -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.8.*|3.9.*',build
='*_cp37m|*_cp38|*_pypy36_pp73|*_cp39|*_cp36m|*_cp27mu']
aiohttp -> python_abi[version='3.6|3.6.*|3.9.*|3.7.*|3.8.*',build='*_pypy36_p
p73|*_cp36m|*_cp39|*_cp37m|*_cp38']
pyyaml -> python_abi[version='2.7.*|3.6|3.6.*|3.8.*|3.7.*|3.9.*',build='*_cp3
9|*_pypy36_pp73|*_cp36m|*_cp38|*_cp37m|*_cp27mu']
future -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp3
6m|*_cp37m|*_pypy36_pp73|*_cp38|*_cp39|*_cp27mu']
widgetsnbextension=3.5.1 -> python_abi[version='3.6|3.6.*|3.7.*|3.9.*|3.8.*',
build='*_cp38|*_cp39|*_cp37m|*_cp36m|*_pypy36_pp73']
bokeh -> python_abi[version='3.6.*|3.6|3.7.*|3.9.*|3.8.*',build='*_pypy36_pp7
3|*_cp37m|*_cp39|*_cp36m|*_cp38']
mkl-service -> python_abi[version='3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37m|*_
cp36m|*_cp39|*_cp38']
scipy -> python_abi[version='3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp36m|*_cp
37m|*_pypy36_pp73|*_cp38|*_cp39']
certifi -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp
36m|*_pypy36_pp73|*_cp37m|*_cp38|*_cp39|*_cp27mu']
mkl_fft -> python_abi[version='3.6.*|3.9.*|3.8.*|3.7.*',build='*_cp36m|*_cp39
|*_cp38|*_cp37m']
pyzmq -> python_abi[version='2.7.*|3.6|3.6.*|3.9.*|3.8.*|3.7.*',build='*_cp37
m|*_cp36m|*_cp39|*_cp38|*_pypy36_pp73|*_cp27mu']
beautifulsoup4 -> python_abi[version='3.6|3.6.*|3.7.*|3.8.*',build='*_cp37m|*
_cp38|*_cp36m|*_pypy36_pp73']
importlib-metadata -> python_abi[version='2.7.*|3.6.*|3.6|3.8.*|3.7.*',build
='*_pypy36_pp73|*_cp38|*_cp36m|*_cp37m|*_cp27mu']
fastcache -> python_abi[version='2.7.*|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37
m|*_cp36m|*_cp39|*_cp38|*_cp27mu']
cffi -> python_abi[version='3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37m|*_cp3
9|*_cp38|*_cp36m|*_pypy36_pp73']
dill -> python_abi[version='2.7.*|3.6.*|3.6|3.8.*|3.7.*',build='*_pypy36_pp73
|*_cp38|*_cp36m|*_cp27mu|*_cp37m']
pywavelets -> python_abi[version='3.6.*|3.6|3.8.*|3.9.*|3.7.*',build='*_cp37m
|*_pypy36_pp73|*_cp38|*_cp36m|*_cp39']
tensorflow-base -> python_abi[version='3.6.*|3.7.*',build='*_cp37m|*_cp36m']
biopython -> python_abi[version='3.6.*|3.6|3.7.*|3.9.*|3.8.*',build='*_pypy36
_pp73|*_cp37m|*_cp39|*_cp38|*_cp36m']
pyqt -> python_abi[version='3.6.*|3.8.*|3.9.*|3.7.*',build='*_cp36m|*_cp38|*_
cp39|*_cp37m']
tornado -> python_abi[version='3.6|3.6.*|3.7.*|3.8.*|3.9.*',build='*_cp36m|*_
cp37m|*_cp38|*_cp39|*_pypy36_pp73']
notebook -> python_abi[version='3.6.*|3.6|3.7.*|3.9.*|3.8.*',build='*_cp36m|*
_cp37m|*_pypy36_pp73|*_cp39|*_cp38']
matplotlib-base -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.9.*|3.8.*',bui
ld='*_pypy36_pp73|*_cp37m|*_cp39|*_cp36m|*_cp38|*_cp27mu']
ninja -> python_abi[version='3.6|3.6.*|3.8.*|3.7.*',build='*_cp38|*_cp36m|*_p
ypy36_pp73|*_cp37m']
terminado -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_
cp38|*_cp39|*_cp37m|*_cp36m|*_pypy36_pp73|*_cp27mu']
statsmodels -> python_abi[version='3.6.*|3.8.*|3.9.*|3.7.*',build='*_cp36m|*_
cp38|*_cp39|*_cp37m']

jupyter_core -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp38|*_cp37m|*_pypy36_pp73|*_cp36m|*_cp39|*_cp27mu']

keyring -> python_abi[version='3.6.*|3.6|3.7.*|3.9.*|3.8.*',build='*_cp36m|*_cp37m|*_pypy36_pp73|*_cp39|*_cp38']

regex -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.9.*|3.8.*',build='*_pypy36_pp73|*_cp37m|*_cp39|*_cp36m|*_cp38|*_cp27mu']

grpcio -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.8.*|3.9.*',build='*_cp36m|*_cp37m|*_cp38|*_cp39|*_pypy36_pp73|*_cp27mu']

brotlipy -> python_abi[version='3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp38|*_cp37m|*_pypy36_pp73|*_cp39|*_cp36m']

pandas -> python_abi[version='3.6|3.6.*|3.8.*|3.9.*|3.7.*',build='*_cp37m|*_cp38|*_cp36m|*_pypy36_pp73|*_cp39']

scikit-learn -> python_abi[version='3.6.*|3.6|3.9.*|3.7.*|3.8.*',build='*_cp37m|*_pypy36_pp73|*_cp39|*_cp38|*_cp36m']

sqlalchemy -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_pypy36_pp73|*_cp36m|*_cp37m|*_cp39|*_cp38|*_cp27mu']

kiwisolver -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.8.*|3.9.*',build='*_cp39|*_cp37m|*_cp36m|*_cp38|*_pypy36_pp73|*_cp27mu']

mistune -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_pypy36_pp73|*_cp36m|*_cp37m|*_cp39|*_cp38|*_cp27mu']

pysocks -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp36m|*_pypy36_pp73|*_cp37m|*_cp38|*_cp39|*_cp27mu']

secretstorage -> python_abi[version='2.7.*|3.6|3.6.*|3.9.*|3.7.*|3.8.*',build='*_pypy36_pp73|*_cp36m|*_cp39|*_cp37m|*_cp38|*_cp27mu']

soupsieve -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.8.*',build='*_cp37m|*_cp38|*_cp36m|*_pypy36_pp73|*_cp27mu']

pillow -> python_abi[version='3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp36m|*_cp37m|*_cp39|*_pypy36_pp73|*_cp38']

h5py -> python_abi[version='3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp36m|*_cp37m|*_cp39|*_cp38']

chardet -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.8.*|3.9.*',build='*_cp37m|*_cp36m|*_cp38|*_cp39|*_pypy36_pp73|*_cp27mu']

traitlets -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.8.*',build='*_cp37m|*_cp38|*_cp36m|*_pypy36_pp73|*_cp27mu']

nbconvert -> python_abi[version='3.6.*|3.6|3.9.*|3.7.*|3.8.*',build='*_cp37m|*_cp36m|*_pypy36_pp73|*_cp39|*_cp38']

requests -> python_abi[version='2.7.*|3.6.*|3.6|3.8.*|3.7.*',build='*_cp36m|*_pypy36_pp73|*_cp38|*_cp37m|*_cp27mu']

matplotlib -> python_abi[version='3.6.*|3.6|3.7.*|3.9.*|3.8.*',build='*_pypy36_pp73|*_cp37m|*_cp39|*_cp36m|*_cp38']

cx_oracle -> python_abi[version='2.7.*|3.6|3.6.*|3.8.*|3.7.*|3.9.*',build='*_cp38|*_cp36m|*_pypy36_pp73|*_cp37m|*_cp39|*_cp27mu']

jedi -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp38|*_cp39|*_cp37m|*_cp36m|*_pypy36_pp73|*_cp27mu']

pymssql -> python_abi[version='3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37m|*_cp39|*_cp38|*_cp36m']

setuptools -> python_abi[version='3.6.*|3.6|3.9.*|3.8.*|3.7.*',build='*_cp37m|*_pypy36_pp73|*_cp39|*_cp38|*_cp36m']

py-xgboost -> python_abi[version='3.6.*|3.8.*|3.7.*|3.9.*',build='*_cp36m|*_cp38|*_cp37m|*_cp39']

pyrsistent -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.8.*|3.9.*',build='*_cp36m|*_cp37m|*_cp38|*_cp39|*_pypy36_pp73|*_cp27mu']

pexpect -> python_abi[version='2.7.*|3.6|3.6.*|3.8.*|3.7.*',build='*_cp37m|*_cp36m|*_cp38|*_pypy36_pp73|*_cp27mu']

markupsafe -> python_abi[version='2.7.*|3.6.*|3.6|3.9.*|3.7.*|3.8.*',build='*_cp37m|*_pypy36_pp73|*_cp39|*_cp36m|*_cp38|*_cp27mu']

jsonschema -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.8.*',build='*_cp36m

```
|*_cp37m|*_cp38|*_pypy36_pp73|*_cp27mu']
urllib3 -> python_abi[version='2.7.*|3.8.*|3.6|3.6|3.7.*',build='*_cp38|*_c
p27mu|*_cp36m|*_pypy36_pp73|*_cp37m']
numpy  -> python_abi[version='3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37m|*_cp
39|*_cp38|*_cp36m|*_pypy36_pp73']
numexpr -> python_abi[version='3.6|3.6.*|3.7.*|3.8.*|3.9.*',build='*_cp38|*_c
p37m|*_cp36m|*_pypy36_pp73|*_cp39']
lxml ->  python_abi[version='2.7.*|3.6|3.6.*|3.9.*|3.8.*|3.7.*',build='*_cp36m
|*_cp39|*_cp38|*_cp37m|*_pypy36_pp73|*_cp27mu']
yarl -> python_abi[version='3.6.*|3.6|3.9.*|3.7.*|3.8.*',build='*_cp37m|*_pyp
y36_pp73|*_cp39|*_cp36m|*_cp38']
ipykernel -> python_abi[version='3.6|3.6.*|3.9.*|3.7.*|3.8.*',build='*_cp39|*
_cp36m|*_pypy36_pp73|*_cp37m|*_cp38']
psycopg2 -> python_abi[version='3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp36m|*
_cp37m|*_cp39|*_pypy36_pp73|*_cp38']
pluggy -> python_abi[version='3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37m|*_c
p36m|*_cp39|*_pypy36_pp73|*_cp38']
protobuf -> python_abi[version='3.6.*|3.6|3.7.*|3.9.*|3.8.*',build='*_cp39|*_
cp37m|*_pypy36_pp73|*_cp38|*_cp36m']
s3transfer -> python_abi[version='3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp36m
|*_pypy36_pp73|*_cp37m|*_cp38|*_cp39']
entrypoints -> python_abi[version='2.7.*|3.6|3.6|3.7.*|3.8.*|3.9.*',build
='*_cp36m|*_cp37m|*_pypy36_pp73|*_cp38|*_cp39|*_cp27mu']
scikit-image -> python_abi[version='3.6.*|3.6|3.7.*|3.8.*|3.9.*',build='*_cp3
8|*_cp37m|*_pypy36_pp73|*_cp39|*_cp36m']
absl-py  -> python_abi[version='2.7.*|3.6|3.6.*|3.8.*|3.7.*|3.9.*',build='*_cp
38|*_cp36m|*_pypy36_pp73|*_cp37m|*_cp39|*_cp27mu']
python=3.7 ->python_abi==3.7[build=*_pypy37_pp73]
astropy -> python_abi[version='3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37m|*_cp39
|*_cp38|*_cp36m']
glib -> python_abi[version='2.7.*|3.6|3.6.*|3.7.*|3.8.*',build='*_cp38|*_cp37
m|*_cp36m|*_pypy36_pp73|*_cp27mu']
pytest -> python_abi[version='3.6|3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37m|*_c
p39|*_cp38|*_cp36m|*_pypy36_pp73']
mkl_random -> python_abi[version='3.6.*|3.7.*|3.8.*',build='*_cp37m|*_cp38|*_
cp36m']
pytables ->python_abi[version='3.6.*|3.7.*|3.9.*|3.8.*',build='*_cp37m|*_cp3
6m|*_cp39|*_cp38']
cryptography -> python_abi[version='2.7.*|3.6|3.6.*|3.8.*|3.9.*|3.7.*',build
='*_cp36m|*_cp38|*_cp39|*_pypy36_pp73|*_cp37m|*_cp27mu']
wrapt -> python_abi[version='2.7.*|3.6.*|3.6|3.9.*|3.7.*|3.8.*',build='*_cp37
m|*_pypy36_pp73|*_cp39|*_cp38|*_cp36m|*_cp27mu']
pyodbc  -> python_abi[version='2.7.*|3.6.*|3.8.*|3.9.*|3.7.*',build='*_cp36m|*
_cp38|*_cp39|*_cp37m|*_cp27mu']
docutils -> python_abi[version='2.7.*|3.6.*|3.6|3.7.*|3.9.*|3.8.*',build='*_p
ypy36_pp73|*_cp37m|*_cp39|*_cp38|*_cp36m|*_cp27mu']

Package openssl conflicts for:
ibm-wsrt-py37main-main -> openssl==1.1.1h[build=*]
qt -> openssl[version='1.0.*|1.1.*|>=1.1.1g,<1.1.2a|>=1.0.2p,<1.0.3a|>=1.0.2
r,<1.0.3a|>=1.0.2o,<1.0.3a|>=1.0.2n,<1.0.3a']
freetds -> openssl[version='1.0.*|>=1.0.2o,<1.0.3a|>=1.0.2p,<1.0.3a|>=1.1.1a,
<1.1.2a|>=1.1.1e,<1.1.2a|>=1.0.2n,<1.0.3a']
grpcio -> openssl[version='>=1.0.2o,<1.0.3a|>=1.0.2p,<1.0.3a|>=1.1.1a,<1.1.2a
|>=1.1.1d,<1.1.2a|>=1.1.1g,<1.1.2a|>=1.1.1h,<1.1.2a']
krb5 -> openssl[version='1.0.*|>=1.0.2l,<1.0.3a|>=1.0.2m,<1.0.3a|>=1.0.2n,<1.
0.3a|>=1.0.2o,<1.0.3a|>=1.0.2p,<1.0.3a|>=1.1.1a,<1.1.2a|>=1.1.1g,<1.1.2a|>=1.
```

1.1h,<1.1.2a|>=1.1.1d,<1.1.2a']
python=3.7 -> openssl[version='>=1.0.2o,<1.0.3a|>=1.0.2p,<1.0.3a|>=1.1.1a,<1.
1.2a|>=1.1.1e,<1.1.2a|>=1.1.1g,<1.1.2a|>=1.1.1h,<1.1.2a|>=1.1.1d,<1.1.2a|>=1.
1.1c,<1.1.2a|>=1.1.1b,<1.1.2a']
cryptography -> openssl[version='1.0.*|>=1.0.2o,<1.0.3a|>=1.0.2p,<1.0.3a|>=1.
1.1a,<1.1.2a|>=1.1.1d,<1.1.2a|>=1.1.1g,<1.1.2a|>=1.1.1h,<1.1.2a|>=1.1.1i,<1.
1.2a|>=1.1.1c,<1.1.2a|>=1.1.1b,<1.1.2a|>=1.0.2n,<1.0.3a|>=1.0.2m,<1.0.3a']
psycopg2 -> openssl[version='1.0.*|>=1.0.2o,<1.0.3a|>=1.0.2p,<1.0.3a|>=1.1.1
a,<1.1.2a|>=1.1.1f,<1.1.2a|>=1.1.1g,<1.1.2a|>=1.1.1h,<1.1.2a|>=1.1.1d,<1.1.2a
|>=1.0.2n,<1.0.3a|>=1.0.2m,<1.0.3a']
hdf5 -> openssl[version='>=1.1.1g,<1.1.2a|>=1.1.1h,<1.1.2a']
libpq -> openssl[version='1.0.*|>=1.0.2p,<1.0.3a|>=1.1.1a,<1.1.2a|>=1.1.1d,<
1.1.2a|>=1.1.1f,<1.1.2a|>=1.1.1g,<1.1.2a|>=1.1.1h,<1.1.2a|>=1.1.1b,<1.1.2a|>=
1.0.2o,<1.0.3a|>=1.0.2m,<1.0.3a']

Package pathlib2 conflicts for:
importlib-metadata -> pathlib2
ipython -> pathlib2
pickleshare -> pathlib2
pytest -> pathlib2[version='>=2.2.0']
testpath -> pathlib2
importlib_metadata -> pathlib2

Package ipaddress conflicts for:
cryptography -> ipaddress
urllib3 -> ipaddress
notebook -> ipaddress

Package cffi conflicts for:
ibm-wsrt-py37main-main -> cffi==1.14.0[build=*]
cryptography -> cffi[version='!=1.11.3,>=1.8|>=1.8,!=1.11.3|>=1.7|>=1.8']
pytorch -> cffi
brotlipy -> cffi[version='>=1.0.0']

Package imageio conflicts for:
scikit-image -> imageio[version='>=2.1.0|>=2.3.0']
ibm-wsrt-py37main-main ->imageio==2.9.0[build=*]

Package libopenblas conflicts for:
numpy-base -> libopenblas[version='>=0.2.20,<0.2.21.0a0|>=0.3.2,<0.3.3.0a0|>=
0.3.3,<1.0a0']
numpy -> libopenblas[version='>=0.2.20,<0.2.21.0a0|>=0.3.2,<0.3.3.0a0|>=0.3.
3,<1.0a0']
numexpr -> libopenblas[version='>=0.2.20,<0.2.21.0a0|>=0.3.2,<0.3.3.0a0|>=0.
3.3,<1.0a0']
scikit-learn -> libopenblas[version='>=0.2.20,<0.2.21.0a0|>=0.3.3,<1.0a0']
scipy -> libopenblas[version='>=0.2.20,<0.2.21.0a0|>=0.3.2,<0.3.3.0a0|>=0.3.
3,<1.0a0']

Package botocore conflicts for:
ibm-wsrt-py37main-main -> botocore==1.16.11[build=*]
s3transfer -> botocore[version='>=1.12.36,<2.0.0|>=1.3.0,<2.0.0']
boto3 -> botocore[version='>=1.10.0,<1.11.0|>=1.10.1,<1.11.0|>=1.10.10,<1.11.
0|>=1.10.11,<1.11.0|>=1.10.12,<1.11.0|>=1.10.13,<1.11.0|>=1.10.14,<1.11.0|>=
1.10.15,<1.11.0|>=1.10.16,<1.11.0|>=1.10.17,<1.11.0|>=1.10.18,<1.11.0|>=1.10.
19,<1.11.0|>=1.10.20,<1.11.0|>=1.10.21,<1.11.0|>=1.10.22,<1.11.0|>=1.10.23,<
1.11.0|>=1.10.24,<1.11.0|>=1.10.25,<1.11.0|>=1.10.26,<1.11.0|>=1.10.27,<1.11.

```
0|>=1.10.28,<1.11.0|>=1.10.29,<1.11.0|>=1.10.30,<1.11.0|>=1.10.31,<1.11.0|>=
1.10.32,<1.11.0|>=1.10.33,<1.11.0|>=1.10.34,<1.11.0|>=1.10.35,<1.11.0|>=1.10.
36,<1.11.0|>=1.10.37,<1.11.0|>=1.10.38,<1.11.0|>=1.10.39,<1.11.0|>=1.10.40,<
1.11.0|>=1.10.41,<1.11.0|>=1.10.42,<1.11.0|>=1.10.43,<1.11.0|>=1.10.44,<1.11.
0|>=1.10.45,<1.11.0|>=1.10.46,<1.11.0|>=1.10.47,<1.11.0|>=1.10.48,<1.11.0|>=
1.10.49,<1.11.0|>=1.10.50,<1.11.0|>=1.10.51,<1.11.0|>=1.10.52,<1.11.0|>=1.10.
53,<1.11.0|>=1.10.54,<1.11.0|>=1.10.55,<1.11.0|>=1.10.56,<1.11.0|>=1.10.57,<
1.11.0|>=1.10.58,<1.11.0|>=1.10.59,<1.11.0|>=1.10.60,<1.11.0|>=1.10.61,<1.11.
0|>=1.10.62,<1.11.0|>=1.10.63,<1.11.0|>=1.10.64,<1.11.0|>=1.10.65,<1.11.0|>=
1.10.66,<1.11.0|>=1.10.67,<1.11.0|>=1.10.68,<1.11.0|>=1.10.69,<1.11.0|>=1.10.
70,<1.11.0|>=1.10.71,<1.11.0|>=1.10.72,<1.11.0|>=1.10.73,<1.11.0|>=1.10.74,<
1.11.0|>=1.10.75,<1.11.0|>=1.10.76,<1.11.0|>=1.10.77,<1.11.0|>=1.10.78,<1.11.
0|>=1.10.79,<1.11.0|>=1.10.80,<1.11.0|>=1.10.81,<1.11.0|>=1.10.82,<1.11.0|>=
1.10.83,<1.11.0|>=1.10.84,<1.11.0|>=1.11.0,<1.12.0|>=1.11.1,<1.12.0|>=1.11.2,
<1.12.0|>=1.11.3,<1.12.0|>=1.11.4,<1.12.0|>=1.11.5,<1.12.0|>=1.11.6,<1.12.0|>
=1.11.7,<1.12.0|>=1.11.8,<1.12.0|>=1.11.9,<1.12.0|>=1.12.0,<1.13.0|>=1.12.1,<
1.13.0|>=1.12.10,<1.13.0|>=1.12.100,<1.13.0|>=1.12.101,<1.13.0|>=1.12.102,<1.
13.0|>=1.12.103,<1.13.0|>=1.12.104,<1.13.0|>=1.12.105,<1.13.0|>=1.12.106,<1.1
3.0|>=1.12.107,<1.13.0|>=1.12.108,<1.13.0|>=1.12.109,<1.13.0|>=1.12.110,<1.1
3.0|>=1.12.111,<1.13.0|>=1.12.112,<1.13.0|>=1.12.113,<1.13.0|>=1.12.114,<1.1
3.0|>=1.12.115,<1.13.0|>=1.12.116,<1.13.0|>=1.12.117,<1.13.0|>=1.12.118,<1.1
3.0|>=1.12.119,<1.13.0|>=1.12.120,<1.13.0|>=1.12.121,<1.13.0|>=1.12.122,<1.1
3.0|>=1.12.123,<1.13.0|>=1.12.124,<1.13.0|>=1.12.125,<1.13.0|>=1.12.126,<1.1
3.0|>=1.12.127,<1.13.0|>=1.12.128,<1.13.0|>=1.12.129,<1.13.0|>=1.12.130,<1.1
3.0|>=1.12.131,<1.13.0|>=1.12.132,<1.13.0|>=1.12.133,<1.13.0|>=1.12.134,<1.1
3.0|>=1.12.135,<1.13.0|>=1.12.136,<1.13.0|>=1.12.137,<1.13.0|>=1.12.138,<1.1
3.0|>=1.12.139,<1.13.0|>=1.12.140,<1.13.0|>=1.12.141,<1.13.0|>=1.12.142,<1.1
3.0|>=1.12.143,<1.13.0|>=1.12.144,<1.13.0|>=1.12.145,<1.13.0|>=1.12.146,<1.1
3.0|>=1.12.147,<1.13.0|>=1.12.148,<1.13.0|>=1.12.149,<1.13.0|>=1.12.150,<1.1
3.0|>=1.12.151,<1.13.0|>=1.12.152,<1.13.0|>=1.12.153,<1.13.0|>=1.12.154,<1.1
3.0|>=1.12.155,<1.13.0|>=1.12.156,<1.13.0|>=1.12.157,<1.13.0|>=1.12.158,<1.1
3.0|>=1.12.159,<1.13.0|>=1.12.160,<1.13.0|>=1.12.161,<1.13.0|>=1.12.162,<1.1
3.0|>=1.12.163,<1.13.0|>=1.12.164,<1.13.0|>=1.12.165,<1.13.0|>=1.12.166,<1.1
3.0|>=1.12.167,<1.13.0|>=1.12.168,<1.13.0|>=1.12.169,<1.13.0|>=1.12.170,<1.1
3.0|>=1.12.171,<1.13.0|>=1.12.172,<1.13.0|>=1.12.173,<1.13.0|>=1.12.174,<1.1
3.0|>=1.12.175,<1.13.0|>=1.12.176,<1.13.0|>=1.12.177,<1.13.0|>=1.12.178,<1.1
3.0|>=1.12.179,<1.13.0|>=1.12.180,<1.13.0|>=1.12.181,<1.13.0|>=1.12.182,<1.1
3.0|>=1.12.183,<1.13.0|>=1.12.184,<1.13.0|>=1.12.185,<1.13.0|>=1.12.186,<1.1
3.0|>=1.12.187,<1.13.0|>=1.12.188,<1.13.0|>=1.12.189,<1.13.0|>=1.12.190,<1.1
3.0|>=1.12.191,<1.13.0|>=1.12.192,<1.13.0|>=1.12.193,<1.13.0|>=1.12.194,<1.1
3.0|>=1.12.195,<1.13.0|>=1.12.196,<1.13.0|>=1.12.197,<1.13.0|>=1.12.198,<1.1
3.0|>=1.12.199,<1.13.0|>=1.12.200,<1.13.0|>=1.12.201,<1.13.0|>=1.12.202,<1.1
3.0|>=1.12.203,<1.13.0|>=1.12.204,<1.13.0|>=1.12.205,<1.13.0|>=1.12.206,<1.1
3.0|>=1.12.207,<1.13.0|>=1.12.208,<1.13.0|>=1.12.209,<1.13.0|>=1.12.210,<1.1
3.0|>=1.12.211,<1.13.0|>=1.12.212,<1.13.0|>=1.12.213,<1.13.0|>=1.12.214,<1.1
3.0|>=1.12.215,<1.13.0|>=1.12.216,<1.13.0|>=1.12.217,<1.13.0|>=1.12.218,<1.1
3.0|>=1.12.219,<1.13.0|>=1.12.220,<1.13.0|>=1.12.221,<1.13.0|>=1.12.222,<1.1
3.0|>=1.12.223,<1.13.0|>=1.12.224,<1.13.0|>=1.12.225,<1.13.0|>=1.12.226,<1.1
3.0|>=1.12.227,<1.13.0|>=1.12.228,<1.13.0|>=1.12.229,<1.13.0|>=1.12.230,<1.1
3.0|>=1.12.231,<1.13.0|>=1.12.232,<1.13.0|>=1.12.233,<1.13.0|>=1.12.234,<1.1
3.0|>=1.12.235,<1.13.0|>=1.12.236,<1.13.0|>=1.12.237,<1.13.0|>=1.12.238,<1.1
3.0|>=1.12.239,<1.13.0|>=1.12.240,<1.13.0|>=1.12.241,<1.13.0|>=1.12.242,<1.1
3.0|>=1.12.243,<1.13.0|>=1.12.244,<1.13.0|>=1.12.245,<1.13.0|>=1.12.246,<1.1
3.0|>=1.12.247,<1.13.0|>=1.12.248,<1.13.0|>=1.12.249,<1.13.0|>=1.12.250,<1.1
3.0|>=1.12.251,<1.13.0|>=1.12.252,<1.13.0|>=1.12.253,<1.13.0|>=1.13.0,<1.14.0
|>=1.13.1,<1.14.0|>=1.13.10,<1.14.0|>=1.13.11,<1.14.0|>=1.13.12,<1.14.0|>=1.1
3.13,<1.14.0|>=1.13.14,<1.14.0|>=1.13.15,<1.14.0|>=1.13.16,<1.14.0|>=1.13.17,
```

<1.14.0|>=1.13.18,<1.14.0|>=1.13.19,<1.14.0|>=1.13.20,<1.14.0|>=1.13.21,<1.14.0|>=1.13.22,<1.14.0|>=1.13.23,<1.14.0|>=1.13.24,<1.14.0|>=1.13.25,<1.14.0|>=1.13.26,<1.14.0|>=1.13.27,<1.14.0|>=1.13.28,<1.14.0|>=1.13.29,<1.14.0|>=1.13.30,<1.14.0|>=1.13.31,<1.14.0|>=1.13.32,<1.14.0|>=1.13.33,<1.14.0|>=1.13.34,<1.14.0|>=1.13.35,<1.14.0|>=1.13.36,<1.14.0|>=1.13.37,<1.14.0|>=1.13.38,<1.14.0|>=1.13.39,<1.14.0|>=1.13.40,<1.14.0|>=1.13.41,<1.14.0|>=1.13.42,<1.14.0|>=1.13.43,<1.14.0|>=1.13.44,<1.14.0|>=1.13.45,<1.14.0|>=1.13.46,<1.14.0|>=1.13.47,<1.14.0|>=1.13.48,<1.14.0|>=1.13.49,<1.14.0|>=1.13.50,<1.14.0|>=1.14.0,<1.15.0|>=1.14.1,<1.15.0|>=1.14.10,<1.15.0|>=1.14.11,<1.15.0|>=1.14.12,<1.15.0|>=1.14.13,<1.15.0|>=1.14.14,<1.15.0|>=1.14.15,<1.15.0|>=1.14.16,<1.15.0|>=1.14.17,<1.15.0|>=1.15.0,<1.16.0|>=1.15.1,<1.16.0|>=1.15.10,<1.16.0|>=1.15.11,<1.16.0|>=1.15.12,<1.16.0|>=1.15.13,<1.16.0|>=1.15.14,<1.16.0|>=1.15.15,<1.16.0|>=1.15.16,<1.16.0|>=1.15.17,<1.16.0|>=1.15.18,<1.16.0|>=1.15.19,<1.16.0|>=1.15.20,<1.16.0|>=1.15.21,<1.16.0|>=1.15.22,<1.16.0|>=1.15.23,<1.16.0|>=1.15.24,<1.16.0|>=1.15.25,<1.16.0|>=1.15.26,<1.16.0|>=1.15.27,<1.16.0|>=1.15.28,<1.16.0|>=1.15.29,<1.16.0|>=1.15.30,<1.16.0|>=1.15.31,<1.16.0|>=1.15.32,<1.16.0|>=1.15.33,<1.16.0|>=1.15.34,<1.16.0|>=1.15.35,<1.16.0|>=1.15.36,<1.16.0|>=1.15.37,<1.16.0|>=1.15.38,<1.16.0|>=1.15.39,<1.16.0|>=1.15.40,<1.16.0|>=1.15.41,<1.16.0|>=1.15.42,<1.16.0|>=1.15.43,<1.16.0|>=1.15.44,<1.16.0|>=1.15.45,<1.16.0|>=1.15.46,<1.16.0|>=1.15.47,<1.16.0|>=1.15.48,<1.16.0|>=1.15.49,<1.16.0|>=1.16.0,<1.17.0|>=1.16.1,<1.17.0|>=1.16.10,<1.17.0|>=1.16.11,<1.17.0|>=1.16.12,<1.17.0|>=1.16.13,<1.17.0|>=1.16.14,<1.17.0|>=1.16.15,<1.17.0|>=1.16.16,<1.17.0|>=1.16.17,<1.17.0|>=1.16.18,<1.17.0|>=1.16.19,<1.17.0|>=1.16.20,<1.17.0|>=1.16.21,<1.17.0|>=1.16.22,<1.17.0|>=1.16.23,<1.17.0|>=1.16.24,<1.17.0|>=1.16.25,<1.17.0|>=1.16.26,<1.17.0|>=1.17.0,<1.18.0|>=1.17.1,<1.18.0|>=1.17.10,<1.18.0|>=1.17.11,<1.18.0|>=1.17.12,<1.18.0|>=1.17.13,<1.18.0|>=1.17.14,<1.18.0|>=1.17.15,<1.18.0|>=1.17.16,<1.18.0|>=1.17.17,<1.18.0|>=1.17.18,<1.18.0|>=1.17.19,<1.18.0|>=1.17.20,<1.18.0|>=1.17.21,<1.18.0|>=1.17.22,<1.18.0|>=1.17.23,<1.18.0|>=1.17.24,<1.18.0|>=1.17.25,<1.18.0|>=1.17.26,<1.18.0|>=1.17.27,<1.18.0|>=1.17.28,<1.18.0|>=1.17.29,<1.18.0|>=1.17.30,<1.18.0|>=1.17.31,<1.18.0|>=1.17.32,<1.18.0|>=1.17.33,<1.18.0|>=1.17.34,<1.18.0|>=1.17.35,<1.18.0|>=1.17.36,<1.18.0|>=1.17.37,<1.18.0|>=1.17.38,<1.18.0|>=1.17.39,<1.18.0|>=1.17.40,<1.18.0|>=1.17.41,<1.18.0|>=1.17.42,<1.18.0|>=1.17.43,<1.18.0|>=1.17.44,<1.18.0|>=1.17.45,<1.18.0|>=1.17.46,<1.18.0|>=1.17.47,<1.18.0|>=1.17.48,<1.18.0|>=1.17.49,<1.18.0|>=1.17.50,<1.18.0|>=1.17.51,<1.18.0|>=1.17.52,<1.18.0|>=1.17.53,<1.18.0|>=1.17.54,<1.18.0|>=1.17.55,<1.18.0|>=1.17.56,<1.18.0|>=1.17.57,<1.18.0|>=1.17.58,<1.18.0|>=1.17.59,<1.18.0|>=1.17.60,<1.18.0|>=1.17.61,<1.18.0|>=1.17.62,<1.18.0|>=1.17.63,<1.18.0|>=1.18.0,<1.19.0|>=1.18.1,<1.19.0|>=1.18.10,<1.19.0|>=1.18.11,<1.19.0|>=1.18.12,<1.19.0|>=1.18.13,<1.19.0|>=1.18.14,<1.19.0|>=1.18.15,<1.19.0|>=1.18.16,<1.19.0|>=1.18.17,<1.19.0|>=1.18.18,<1.19.0|>=1.19.0,<1.20.0|>=1.19.1,<1.20.0|>=1.19.10,<1.20.0|>=1.19.11,<1.20.0|>=1.19.12,<1.20.0|>=1.19.13,<1.20.0|>=1.19.14,<1.20.0|>=1.19.15,<1.20.0|>=1.19.16,<1.20.0|>=1.19.17,<1.20.0|>=1.19.18,<1.20.0|>=1.19.19,<1.20.0|>=1.19.20,<1.20.0|>=1.19.21,<1.20.0|>=1.19.22,<1.20.0|>=1.19.23,<1.20.0|>=1.19.24,<1.20.0|>=1.19.25,<1.20.0|>=1.19.26,<1.20.0|>=1.19.27,<1.20.0|>=1.19.28,<1.20.0|>=1.19.29,<1.20.0|>=1.19.30,<1.20.0|>=1.19.31,<1.20.0|>=1.19.32,<1.20.0|>=1.19.33,<1.20.0|>=1.19.34,<1.20.0|>=1.19.35,<1.20.0|>=1.19.9,<1.20.0|>=1.19.8,<1.20.0|>=1.19.7,<1.20.0|>=1.19.6,<1.20.0|>=1.19.5,<1.20.0|>=1.19.4,<1.20.0|>=1.19.3,<1.20.0|>=1.19.2,<1.20.0|>=1.18.9,<1.19.0|>=1.18.8,<1.19.0|>=1.18.7,<1.19.0|>=1.18.6,<1.19.0|>=1.18.5,<1.19.0|>=1.18.4,<1.19.0|>=1.18.3,<1.19.0|>=1.18.2,<1.19.0|>=1.17.9,<1.18.0|>=1.17.8,<1.18.0|>=1.17.7,<1.18.0|>=1.17.6,<1.18.0|>=1.17.5,<1.18.0|>=1.17.4,<1.18.0|>=1.17.3,<1.18.0|>=1.17.2,<1.18.0|>=1.16.9,<1.17.0|>=1.16.8,<1.17.0|>=1.16.7,<1.17.0|>=1.16.6,<1.17.0|>=1.16.5,<1.17.0|>=1.16.4,<1.17.0|>=1.16.3,<1.17.0|>=1.16.2,<1.17.0|>=1.15.9,<1.16.0|>=1.15.8,<1.16.0|>=1.15.7,<1.16.0|>=1.15.6,<1.16.0|>=1.15.5,<1.16.0|>=1.15.4,<1.16.0|>=1.15.3,<1.16.0|>=1.15.2,<1.16.0|>=1.14.9,<1.15.0|>=1.14.8,<1.15.0|>=1.14.7,<1.15.0|>=1.14.6,<1.15.0|>=1.14.5,<1.15.0|>=1.14.4,<1.15.0|>=1.14.

3,<1.15.0|>=1.14.2,<1.15.0|>=1.13.9,<1.14.0|>=1.13.8,<1.14.0|>=1.13.7,<1.14.0
|>=1.13.6,<1.14.0|>=1.13.5,<1.14.0|>=1.13.4,<1.14.0|>=1.13.3,<1.14.0|>=1.13.
2,<1.14.0|>=1.12.99,<1.13.0|>=1.12.98,<1.13.0|>=1.12.97,<1.13.0|>=1.12.96,<1.
13.0|>=1.12.95,<1.13.0|>=1.12.94,<1.13.0|>=1.12.93,<1.13.0|>=1.12.92,<1.13.0|
>=1.12.91,<1.13.0|>=1.12.90,<1.13.0|>=1.12.89,<1.13.0|>=1.12.88,<1.13.0|>=1.1
2.87,<1.13.0|>=1.12.86,<1.13.0|>=1.12.85,<1.13.0|>=1.12.84,<1.13.0|>=1.12.83,
<1.13.0|>=1.12.82,<1.13.0|>=1.12.81,<1.13.0|>=1.12.80,<1.13.0|>=1.12.79,<1.1
3.0|>=1.12.78,<1.13.0|>=1.12.77,<1.13.0|>=1.12.76,<1.13.0|>=1.12.75,<1.13.0|>
=1.12.74,<1.13.0|>=1.12.73,<1.13.0|>=1.12.72,<1.13.0|>=1.12.71,<1.13.0|>=1.1
2.70,<1.13.0|>=1.12.69,<1.13.0|>=1.12.68,<1.13.0|>=1.12.67,<1.13.0|>=1.12.66,
<1.13.0|>=1.12.65,<1.13.0|>=1.12.64,<1.13.0|>=1.12.63,<1.13.0|>=1.12.62,<1.1
3.0|>=1.12.61,<1.13.0|>=1.12.60,<1.13.0|>=1.12.59,<1.13.0|>=1.12.58,<1.13.0|>
=1.12.57,<1.13.0|>=1.12.56,<1.13.0|>=1.12.55,<1.13.0|>=1.12.54,<1.13.0|>=1.1
2.53,<1.13.0|>=1.12.52,<1.13.0|>=1.12.51,<1.13.0|>=1.12.50,<1.13.0|>=1.12.49,
<1.13.0|>=1.12.48,<1.13.0|>=1.12.47,<1.13.0|>=1.12.46,<1.13.0|>=1.12.45,<1.1
3.0|>=1.12.44,<1.13.0|>=1.12.43,<1.13.0|>=1.12.42,<1.13.0|>=1.12.41,<1.13.0|>
=1.12.40,<1.13.0|>=1.12.39,<1.13.0|>=1.12.38,<1.13.0|>=1.12.37,<1.13.0|>=1.1
2.36,<1.13.0|>=1.12.35,<1.13.0|>=1.12.34,<1.13.0|>=1.12.33,<1.13.0|>=1.12.32,
<1.13.0|>=1.12.31,<1.13.0|>=1.12.30,<1.13.0|>=1.12.29,<1.13.0|>=1.12.28,<1.1
3.0|>=1.12.27,<1.13.0|>=1.12.26,<1.13.0|>=1.12.25,<1.13.0|>=1.12.24,<1.13.0|>
=1.12.23,<1.13.0|>=1.12.22,<1.13.0|>=1.12.21,<1.13.0|>=1.12.20,<1.13.0|>=1.1
2.19,<1.13.0|>=1.12.18,<1.13.0|>=1.12.17,<1.13.0|>=1.12.16,<1.13.0|>=1.12.15,
<1.13.0|>=1.12.14,<1.13.0|>=1.12.13,<1.13.0|>=1.12.12,<1.13.0|>=1.12.11,<1.1
3.0|>=1.12.9,<1.13.0|>=1.12.8,<1.13.0|>=1.12.7,<1.13.0|>=1.12.6,<1.13.0|>=1.1
2.5,<1.13.0|>=1.12.4,<1.13.0|>=1.12.3,<1.13.0|>=1.12.2,<1.13.0|>=1.10.9,<1.1
1.0|>=1.10.8,<1.11.0|>=1.10.7,<1.11.0|>=1.10.6,<1.11.0|>=1.10.5,<1.11.0|>=1.1
0.4,<1.11.0|>=1.10.3,<1.11.0|>=1.10.2,<1.11.0|>=1.9.23,<1.10.0|>=1.9.22,<1.1
0.0|>=1.9.21,<1.10.0|>=1.9.20,<1.10.0|>=1.9.19,<1.10.0|>=1.9.18,<1.10.0|>=1.
9.17,<1.10.0|>=1.9.16,<1.10.0|>=1.9.15,<1.10.0|>=1.9.14,<1.10.0|>=1.9.13,<1.1
0.0|>=1.9.12,<1.10.0|>=1.9.11,<1.10.0|>=1.9.10,<1.10.0|>=1.9.9,<1.10.0|>=1.9.
8,<1.10.0|>=1.9.7,<1.10.0|>=1.9.6,<1.10.0|>=1.9.5,<1.10.0|>=1.9.4,<1.10.0|>=
1.9.3,<1.10.0|>=1.9.2,<1.10.0|>=1.9.1,<1.10.0|>=1.9.0,<1.10.0|>=1.8.50,<1.9.0
|>=1.8.49,<1.9.0|>=1.8.48,<1.9.0|>=1.8.47,<1.9.0|>=1.8.46,<1.9.0|>=1.8.45,<1.
9.0|>=1.8.44,<1.9.0|>=1.8.43,<1.9.0|>=1.8.42,<1.9.0|>=1.8.41,<1.9.0|>=1.8.40,
<1.9.0|>=1.8.39,<1.9.0|>=1.8.38,<1.9.0|>=1.8.37,<1.9.0|>=1.8.36,<1.9.0|>=1.8.
32,<1.9.0|>=1.8.28,<1.9.0|>=1.5.0,<1.6.0|>=1.4.1,<1.5.0|>=1.8.0,<1.9.0|>=1.7.
0,<1.8.0']

Package tornado conflicts for:
terminado -> tornado[version='>=4']
ibm-wsrt-py37main-main -> tornado==6.0.4[build=*]
notebook -> tornado[version='>=4|>=4,<6|>=4.1,<7|>=5.0|>=5.0,<7']
jupyterlab -> tornado[version='!=6.0.0,!=6.0.1,!=6.0.2']
matplotlib -> tornado
ipykernel -> tornado[version='>=4.0|>=4.2']
jupyter_client -> tornado[version='>=4.1|>=4.1,<6']
bokeh -> tornado[version='>=4.3,<4.5|>=4.3|>=5|>=5.1']
matplotlib-base -> tornado

Package libgcc conflicts for:
pyqt -> libgcc
scipy -> libgcc
pytorch -> libgcc

Package pyjwt conflicts for:
ibm-wsrt-py37main-main ->pyjwt==1.7.1[build=*]
oauthlib -> pyjwt[version='>=1.0.0']

Package blinker conflicts for:
ibm-wsrt-py37main-main -> blinker==1.4[build=*]
oauthlib -> blinker

Package zipp conflicts for:
importlib_metadata -> zipp[version='>=0.3.2|>=0.5']
importlib-metadata -> zipp[version='>=0.5']
ibm-wsrt-py37main-main -> zipp==3.1.0[build=*]

Package astor conflicts for:
tensorflow-base -> astor[version='>=0.6.0|>=0.6.2|>=0.6.2,<1.0a0']
tensorflow-estimator -> astor[version='>=0.6.0']
ibm-wsrt-py37main-main -> astor==0.8.0[build=*]

Package libstdcxx-ng conflicts for:
zstd -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0']
pandas -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
yaml -> libstdcxx-ng[version='>=7.3.0']
protobuf -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
matplotlib-base -> libstdcxx-ng[version='>=7.3.0|>=7.5.0']
mkl_fft -> libstdcxx-ng[version='>=7.2.0|>=7.3.0']
pyodbc -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
ninja -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
blosc ->libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
glib -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
scikit-image -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
scipy -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
icu -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
kiwisolver -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
python=3.7 -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
pyzmq -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0']
sqlite -> libstdcxx-ng[version='>=4.9|>=7.3.0']
sip -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
snappy -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
libxgboost -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=5.4.0|>=7.2.0']
ncurses -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
unixodbc -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0']
libffi -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
biopython -> libstdcxx-ng[version='>=7.2.0']
lz4-c -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0']
numpy -> libstdcxx-ng[version='>=4.9|>=7.3.0']
libtiff -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
tensorflow-base -> libstdcxx-ng[version='>=5.4.0|>=7.2.0']
ibm-wsrt-py37main-main -> libstdcxx-ng==9.1.0[build=*]
scikit-learn -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
grpcio -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
libprotobuf -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
pytables -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
py-xgboost -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=5.4.0|>=7.2.0']
numexpr -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
gst-plugins-base -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
pyqt -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
tensorboard -> libstdcxx-ng[version='>=7.2.0|>=7.3.0']
pytorch -> libstdcxx-ng[version='>=5.4.0|>=7.3.0']

zeromq -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
matplotlib -> libstdcxx-ng[version='>=7.2.0|>=7.3.0']
qt -> libstdcxx-ng[version='>=7.2.0|>=7.3.0|>=7.5.0']
gmp -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']
mkl_random -> libstdcxx-ng[version='>=7.2.0|>=7.3.0|>=7.5.0']
expat -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.2.0']
freetds -> libstdcxx-ng[version='>=4.9|>=7.3.0']
hdf5 -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=9.3.0|>=7.2.0']
pymssql -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0']
freetype -> libstdcxx-ng[version='>=4.9']
pcre -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.2.0']
krb5 -> libstdcxx-ng[version='>=4.9|>=7.3.0|>=7.5.0|>=7.2.0']

Package pypy3.6 conflicts for:
importlib-metadata -> pypy3.6[version='>=7.3.1']
mock -> pypy3.6[version='>=7.3.1|>=7.3.2']
matplotlib -> pypy3.6[version='>=7.3.2']
jupyter_core -> pypy3.6[version='>=7.3.2']
chardet -> pypy3.6[version='>=7.3.1|>=7.3.2']
pyzmq -> pypy3.6[version='>=7.3.1|>=7.3.2']
secretstorage -> pypy3.6[version='>=7.3.2']
certifi -> pypy3.6[version='>=7.3.1|>=7.3.2']
setuptools -> pypy3.6[version='>=7.3.1|>=7.3.2']
wrapt -> pypy3.6[version='>=7.3.2']
sympy -> pypy3.6[version='>=7.3.1|>=7.3.2|>=7.3.3']
mistune -> pypy3.6[version='>=7.3.1|>=7.3.2']
entrypoints -> pypy3.6[version='>=7.3.2']
pandas -> pypy3.6[version='>=7.3.1|>=7.3.2']
markupsafe -> pypy3.6[version='>=7.3.2']
sqlalchemy -> pypy3.6[version='>=7.3.1|>=7.3.2']
pyyaml -> pypy3.6[version='>=7.3.2']
lxml -> pypy3.6[version='>=7.3.1|>=7.3.2']
scikit-image -> pypy3.6[version='>=7.3.2']
absl-py -> pypy3.6[version='>=7.3.1|>=7.3.2']
docutils -> pypy3.6[version='>=7.3.2']
ipython -> pypy3.6[version='>=7.3.1']
pytest -> pypy3.6[version='>=7.3.1|>=7.3.2|>=7.3.3']
numexpr -> pypy3.6[version='>=7.3.2']
biopython -> pypy3.6[version='>=7.3.1|>=7.3.2']
pysocks -> pypy3.6[version='>=7.3.2']
pillow -> pypy3.6[version='>=7.3.1|>=7.3.2']
keyring -> pypy3.6[version='>=7.3.1|>=7.3.2']
soupsieve -> pypy3.6[version='>=7.3.1']
psycopg2 -> pypy3.6[version='>=7.3.1|>=7.3.2']
cryptography -> pypy3.6[version='>=7.3.1|>=7.3.2']
tornado -> pypy3.6[version='>=7.3.1|>=7.3.2']
cx_oracle -> pypy3.6[version='>=7.3.1|>=7.3.2']
future -> pypy3.6[version='>=7.3.2']
s3transfer -> pypy3.6[version='>=7.3.2']
terminado -> pypy3.6[version='>=7.3.1|>=7.3.2']
multidict -> pypy3.6[version='>=7.3.1|>=7.3.2']
kiwisolver -> pypy3.6[version='>=7.3.2']
yarl -> pypy3.6[version='>=7.3.2']
cffi -> pypy3.6[version='7.3.0.*|7.3.1.*|7.3.2.*|7.3.3.*']
bokeh -> pypy3.6[version='>=7.3.1|>=7.3.2']
scipy -> pypy3.6[version='>=7.3.1|>=7.3.2']
scikit-learn -> pypy3.6[version='>=7.3.2']

widgetsnbextension=3.5.1 -> pypy3.6[version='>=7.3.1|>=7.3.2']
nbconvert -> pypy3.6[version='>=7.3.1|>=7.3.2']
jedi -> pypy3.6[version='>=7.3.1|>=7.3.2']
pyrsistent -> pypy3.6[version='>=7.3.1|>=7.3.2']
pywavelets -> pypy3.6[version='>=7.3.1|>=7.3.2']
regex -> pypy3.6[version='>=7.3.1|>=7.3.2']
ninja -> pypy3.6[version='>=7.3.1']
aiohttp -> pypy3.6[version='>=7.3.2']
matplotlib-base -> pypy3.6[version='>=7.3.1|>=7.3.2']
numpy -> pypy3.6[version='>=7.3.1|>=7.3.2']
beautifulsoup4 -> pypy3.6[version='>=7.3.1']
ipykernel -> pypy3.6[version='>=7.3.1|>=7.3.2|>=7.3.3']
pluggy -> pypy3.6[version='>=7.3.1|>=7.3.2']
pickleshare -> pypy3.6[version='>=7.3.2']
notebook -> pypy3.6[version='>=7.3.1|>=7.3.2']
brotlipy   ->   pypy3.6[version='>=7.3.1|>=7.3.2']
protobuf -> pypy3.6[version='>=7.3.1|>=7.3.2']

Package setuptools conflicts for:
astropy -> setuptools
ibm-wsrt-py37main-main -> setuptools==47.3.1[build=*]
joblib -> setuptools
matplotlib -> setuptools
networkx -> setuptools
markdown -> setuptools[version='>=36']
grpcio -> setuptools
pytest -> setuptools[version='>=40.0']
bleach -> setuptools
pygments -> setuptools
pip -> setuptools
wheel -> setuptools
google-auth -> setuptools[version='>=40.3.0']
protobuf -> setuptools
jinja2 -> setuptools
jsonschema -> setuptools
plotly -> setuptools
tensorboard -> setuptools[version='>=41.0.0|>=41.4']
sympy -> setuptools
matplotlib-base -> setuptools
ipython -> setuptools[version='>=18.5']
numexpr -> setuptools

Package packaging conflicts for:
wheel -> packaging[version='>=20.2']
bleach -> packaging
bokeh -> packaging[version='>=16.8']
pytest -> packaging
ibm-wsrt-py37main-main -> packaging==20.4[build=*]

Package multidict conflicts for:
aiohttp -> multidict[version='>=2.1.4|>=4.0,<5.0|>=4.5,<5.0|>=4.5,<7.0|>=3.0.0']
yarl -> multidict[version='>=2.0|>=4.0']
ibm-wsrt-py37main-main -> multidict==4.7.6[build=*]

Package ipywidgets conflicts for:
arcgis=1.6.0 -> ipywidgets[version='>=7']

ibm-wsrt-py37main-main -> ipywidgets==7.5.1[build=*]

Package scipy conflicts for:
statsmodels -> scipy[version='>=0.14|>=1.0|>=1.2']
tensorflow-base -> scipy[version='>=1.2.1|>=1.4.1']
scikit-learn -> scipy
seaborn -> scipy[version='>=0.15.2|>=1.0.1']
scikit-image -> scipy[version='>=0.17|>=0.19|>=0.9']
ibm-wsrt-py37main-main -> scipy==1.5.0[build=*]
keras-preprocessing -> scipy[version='>=0.14']
nltk -> scipy
patsy -> scipy
py-xgboost -> scipy

Package notebook conflicts for:
arcgis=1.6.0 -> notebook
ipywidgets -> notebook
jupyterlab -> notebook[version='>=4.2|>=4.3|>=4.3.1']
widgetsnbextension=3.5.1 -> notebook[version='>=4.4.1']
ibm-wsrt-py37main-main -> notebook==6.0.3[build=*]
jupyterlab_server -> notebook[version='>=4.2.0']

Package gstreamer conflicts for:
ibm-wsrt-py37main-main -> gstreamer==1.14.0[build=*]
qt -> gstreamer[version='>=1.12.4,<1.13.0a0|>=1.12.5,<1.13.0a0|>=1.14.4,<1.15.0a0|>=1.14.0,<1.15.0a0']
gst-plugins-base -> gstreamer[version='1.8.*|>=1.12.4,<1.13.0a0|>=1.12.5,<1.13.0a0|>=1.14.1,<2.0a0|>=1.14.4,<2.0a0|>=1.14.5,<2.0a0|>=1.18.1,<2.0a0|>=1.18.2,<2.0a0|>=1.14.0,<2.0a0|>=1.12.2,<1.13.0a0']

Package regex conflicts for:
ibm-wsrt-py37main-main -> regex==2020.6.8[build=*]
nltk -> regex

Package numpy conflicts for:
h5py -> numpy[version='1.10.*|1.11.*|1.12.*|1.13.*|>=1.14.6,<2.0a0|>=1.16.5,<2.0a0|>=1.19.4,<2.0a0|>=1.19.2,<2.0a0|>=1.9.3,<2.0a0|>=1.8|>=1.8,<1.14|>=1.13,<2.0a0']
mkl_random -> numpy[version='>=1.11.3,<2.0a0|>=1.11|>=1.14.6,<2.0a0|>=1.16.5,<2.0a0|>=1.9.3,<2.0a0|>=1.14,<2.0a0']
tensorboard -> numpy[version='>=1.12|>=1.12.0|>=1.16']
seaborn -> numpy[version='>=1.13.3|>=1.9.3']
biopython -> numpy[version='1.11.*|1.12.*|1.13.*|>=1.8|>=1.11.3,<2.0a0|>=1.9.3,<2.0a0|>=1.14.1,<2.0a0']
nltk -> numpy
py-xgboost -> numpy
matplotlib -> numpy[version='1.10.*|1.11.*|>=1.14.6,<2.0a0']
opt_einsum -> numpy
bokeh -> numpy[version='>=1.11.3|>=1.7.1']
matplotlib-base -> numpy[version='>=1.11.3,<2.0a0|>=1.14.6,<2.0a0|>=1.15.4,<2.0a0|>=1.16.5,<2.0a0|>=1.19.4,<2.0a0|>=1.18.5,<2.0a0|>=1.19.2,<2.0a0|>=1.9.3,<2.0a0|>=1.16.6,<2.0a0']
ibm-wsrt-py37main-main -> numpy==1.18.5[build=*]
pandas -> numpy[version='1.10.*|1.11.*|1.12.*|1.13.*|>=1.11|>=1.11.*|>=1.12.1,<2.0a0|>=1.14.6,<2.0a0|>=1.15.4,<2.0a0|>=1.16.5,<2.0a0|>=1.18.5,<2.0a0|>=1.19.4,<2.0a0|>=1.19.2,<2.0a0|>=1.18.4,<2.0a0|>=1.18.1,<2.0a0|>=1.9.3,<2.0a0|>=1.9.*|>=1.9|>=1.8|>=1.7|>=1.16.6,<2.0a0|>=1.13.3,<2.0a0|>=1.11.3,<2.0a0']

numexpr -> numpy[version='1.10.*|1.11.*|1.12.*|1.13.*|>=1.11|>=1.11.3|>=1.14.
6,<2.0a0|>=1.16.5,<2.0a0|>=1.18.5,<2.0a0|>=1.19.2,<2.0a0|>=1.18.1,<2.0a0|>=1.
9.3,<2.0a0|>=1.8|>=1.16.6,<2.0a0|>=1.11.3,<2.0a0|>=1.16.4,<2.0a0|>=1.15.4,<2.
0a0']
arcgis=1.6.0 -> numpy
pytorch -> numpy[version='>=1.11|>=1.11.3,<2.0a0|>=1.14.6,<2.0a0|>=1.9.3,<2.0
a0|>=1.9']
tensorflow-estimator -> numpy[version='>=1.13.3|>=1.16.1']
astropy -> numpy[version='1.11.*|1.12.*|1.13.*|>=1.10|>=1.11|>=1.13|>=1.14|>=
1.16.5,<2.0a0|>=1.16|>=1.19.4,<2.0a0|>=1.19|>=1.17|>=1.9|>=1.16.6,<2.0a0|>=1.
19.2,<2.0a0|>=1.17.0,<2.0a0|>=1.17.4,<2.0a0|>=1.13.3,<2.0a0|>=1.14.6,<2.0a0|>
=1.11.3,<2.0a0|>=1.10.4,<2.0a0|>=1.9.3,<2.0a0|>=1.14.1,<2.0a0|>=1.14.0,<2.0a
0']
scipy -> numpy[version='1.10.*|1.11.*|1.12.*|1.13.*|>=1.11|>=1.11.3,<2.0a0|>=
1.14.6,<2.0a0|>=1.16.5,<2.0a0|>=1.18.5,<2.0a0|>=1.19.2,<2.0a0|>=1.18.1,<2.0a0
|>=1.9.3,<2.0a0|>=1.9|>=1.16.6,<2.0a0|>=1.15.1,<2.0a0']
keras-applications -> numpy[version='>=1.9.1']
tensorflow-base -> numpy[version='>=1.12.1,<2.0a0|>=1.13.3,<2.0a0|>=1.14.6,<
2.0a0|>=1.16.1,<2.0a0|>=1.16.6,<2.0a0|>=1.16.5,<2.0a0']
scikit-learn -> numpy[version='1.10.*|1.11.*|1.12.*|1.13.*|>=1.11.3,<2.0a0|>=
1.14.6,<2.0a0|>=1.16.5,<2.0a0|>=1.18.5,<2.0a0|>=1.19.4,<2.0a0|>=1.19.2,<2.0a0
|>=1.9.3,<2.0a0|>=1.9|>=1.16.6,<2.0a0']
patsy -> numpy[version='>=1.4.0']
scikit-image -> numpy[version='1.10.*|1.11.*|1.12.*|1.13.*|>=1.11|>=1.11.3,<
2.0a0|>=1.14.6,<2.0a0|>=1.16.5,<2.0a0|>=1.18.5,<2.0a0|>=1.19.4,<2.0a0|>=1.19.
2,<2.0a0|>=1.16.6,<2.0a0|>=1.9.3,<2.0a0|>=1.13.3,<2.0a0']
mkl_fft -> numpy[version='>=1.11|>=1.11.3,<2.0a0|>=1.14.6,<2.0a0|>=1.16.5,<2.
0a0|>=1.19.2,<2.0a0']
imageio -> numpy
statsmodels -> numpy[version='1.10.*|1.11.*|>=1.11|>=1.14.6,<2.0a0|>=1.15.4,<
2.0a0|>=1.16.5,<2.0a0|>=1.19.2,<2.0a0|>=1.18.1,<2.0a0|>=1.17.5,<2.0a0|>=1.9.
3,<2.0a0|>=1.17.0,<2.0a0|>=1.19.1,<2.0a0|>=1.11.3,<2.0a0']
pytables -> numpy[version='1.10.*|1.11.*|1.12.*|1.13.*|>=1.14.6,<2.0a0|>=1.1
6.5,<2.0a0|>=1.19.2,<2.0a0|>=1.9.3,<2.0a0|>=1.8|>=1.11.3,<2.0a0']
pywavelets -> numpy[version='1.10.*|1.11.*|1.12.*|1.13.*|>=1.14.6,<2.0a0|>=1.
16.5,<2.0a0|>=1.18.5,<2.0a0|>=1.19.4,<2.0a0|>=1.19.2,<2.0a0|>=1.18.1,<2.0a0|>
=1.9.3,<2.0a0|>=1.8|>=1.16.6,<2.0a0|>=1.11.3,<2.0a0']
mkl-service -> numpy[version='>=1.11.3,<2.0a0']
keras-preprocessing -> numpy[version='>=1.9.1']
folium=0.5.0 -> numpy

Package ipython_genutils conflicts for:
notebook ->ipython_genutils
traitlets -> ipython_genutils
ibm-wsrt-py37main-main -> ipython_genutils==0.2.0[build=*]
nbformat -> ipython_genutils

Package keras-preprocessing conflicts for:
ibm-wsrt-py37main-main -> keras-preprocessing==1.1.0[build=*]
tensorflow-base -> keras-preprocessing[version='>=1.0.3|>=1.0.5,<2.0a0|>=1.0.
5|>=1.1.0']

Package chardet conflicts for:
requests -> chardet[version='>=3.0.2,<3.1.0|>=3.0.2,<4']
aiohttp -> chardet[version='>=2.0,<4.0']
ibm-wsrt-py37main-main -> chardet==3.0.4[build=*]

Package readline conflicts for:
ibm-wsrt-py37main-main -> readline==8.0[build=*]
libpq -> readline[version='>=7.0,<8.0a0|>=8.0,<9.0a0']
sqlite -> readline[version='6.2.*|7.0|7.0.*|>=7.0,<8.0a0|>=8.0,<9.0a0']
freetds -> readline[version='>=7.0,<8.0a0|>=8.0,<9.0a0']
python=3.7 -> readline[version='>=7.0,<8.0a0|>=8.0,<9.0a0']

Package pytz conflicts for:
plotly -> pytz
pandas -> pytz[version='>=2017.2']
matplotlib-base -> pytz
matplotlib -> pytz
ibm-wsrt-py37main-main -> pytz==2020.1[build=*]

Package importlib_metadata conflicts for:
jsonschema -> importlib_metadata
ibm-wsrt-py37main-main -> importlib_metadata==1.6.1[build=*]
pytest -> importlib_metadata[version='>=0.12']
pluggy -> importlib_metadata[version='>=0.12|>=0.9']
keyring -> importlib_metadata[version='>=1']

Package bzip2 conflicts for:
ibm-wsrt-py37main-main -> bzip2==1.0.8[build=*]
pytables -> bzip2[version='1.0.*|>=1.0.6,<2.0a0|>=1.0.8,<2.0a0']
python=3.7 -> bzip2[version='>=1.0.6,<2.0a0|>=1.0.8,<2.0a0']

Package jinja2 conflicts for:
folium=0.5.0 -> jinja2
bokeh -> jinja2[version='>=2.7']
jupyterlab_server -> jinja2[version='>2.10*|>=2.10']
notebook -> jinja2
nbconvert -> jinja2[version='>=2.4']
ibm-wsrt-py37main-main -> jinja2==2.11.2[build=*]
jupyterlab -> jinja2[version='>=2.10']

Package zlib conflicts for:
blosc -> zlib[version='1.2.*|1.2.11|>=1.2.11,<1.3.0a0']
tensorflow-base -> zlib[version='>=1.2.11,<1.3.0a0']
hdf5 -> zlib[version='1.2.*|1.2.11|>=1.2.11,<1.3.0a0|1.2.8']
qt -> zlib[version='1.2.*|>=1.2.11,<1.3.0a0']
matplotlib -> zlib[version='>=1.2.11,<1.3.0a0']
libpng -> zlib[version='1.2.*|1.2.11|>=1.2.11,<1.3.0a0|1.2.8']
pillow -> zlib[version='1.2.*|1.2.11|1.2.11.*|>=1.2.11,<1.3.0a0|1.2.8']
gst-plugins-base -> zlib[version='>=1.2.11,<1.3.0a0']
libtiff -> zlib[version='1.2.*|1.2.11|>=1.2.11,<1.3.0a0|1.2.8']
ibm-wsrt-py37main-main -> zlib==1.2.11[build=*]
freetype -> zlib[version='1.2.*|1.2.11|>=1.2.11,<1.3.0a0']
zstd -> zlib[version='>=1.2.11,<1.3.0a0']
libxml2 -> zlib[version='1.2.*|1.2.11|>=1.2.11,<1.3.0a0']
protobuf -> zlib[version='1.2.*|1.2.11|>=1.2.11,<1.3.0a0|1.2.8']
libpq -> zlib[version='>=1.2.11,<1.3.0a0']
pytables -> zlib[version='1.2.*|1.2.11.*|1.2.11|>=1.2.11,<1.3.0a0|1.2.8']
libprotobuf -> zlib[version='1.2.11|>=1.2.11,<1.3.0a0']
tk -> zlib[version='>=1.2.11,<1.3.0a0']
glib -> zlib[version='1.2.*|1.2.11|>=1.2.11,<1.3.0a0|1.2.8']
sqlite -> zlib[version='>=1.2.11,<1.3.0a0']
python=3.7 -> zlib[version='>=1.2.11,<1.3.0a0']

pandoc -> zlib[version='1.2.*|1.2.11|1.2.11.*']
grpcio -> zlib[version='>=1.2.11,<1.3.0a0']

Package pandas conflicts for:
ibm-wsrt-py37main-main -> pandas==1.0.5[build=*]
folium=0.5.0 -> pandas
statsmodels -> pandas[version='>=0.14|>=0.21|>=0.23']
arcgis=1.6.0 -> pandas[version='>=0.23']
bokeh -> pandas
seaborn -> pandas[version='>=0.14.0|>=0.22.0']

Package blas conflicts for:
numpy -> blas[version='*|*|1.1|1.0|1.0',build='openblas|openblas|mkl|mkl']
mkl_fft -> blas[version='*|1.0',build=mkl]
scipy -> blas[version='*|*|1.0|1.1|1.0',build='openblas|openblas|openblas|mkl|mkl']
numexpr -> blas[version='*|*|1.0|1.0',build='openblas|openblas|mkl|mkl']
mkl-service -> blas==1.0=mkl
pytorch -> blas==1.0=mkl
ibm-wsrt-py37main-main -> blas==1.0[build=*]
numpy-base -> blas[version='*|*|1.0|1.0',build='openblas|openblas|mkl|mkl']
mkl_random -> blas[version='*|1.0',build=mkl]
scikit-learn -> blas[version='*|*|1.1|1.0|1.0',build='openblas|openblas|mkl|mkl']

Package tensorboard conflicts for:
tensorflow-base -> tensorboard[version='>=1.13.0,<1.14.0a0|>=1.14.0,<1.15.0a0']
ibm-wsrt-py37main-main -> tensorboard==2.1.0[build=*]

Package typing-extensions conflicts for:
aiohttp -> typing-extensions[version='>=3.6.5']
yarl -> typing-extensions[version='>=3.7.4']

Package google-auth-oauthlib conflicts for:
tensorboard -> google-auth-oauthlib[version='0.4.1|>=0.4.1,<0.5']
ibm-wsrt-py37main-main -> google-auth-oauthlib==0.4.1[build=*]

Package send2trash conflicts for:
notebook -> send2trash
ibm-wsrt-py37main-main -> send2trash==1.5.0[build=*]

Package more-itertools conflicts for:
zipp -> more-itertools
pytest -> more-itertools[version='>=4.0,<6.0|>=4.0|>=4.0.0']
ibm-wsrt-py37main-main -> more-itertools==8.4.0[build=*]

Package cachetools conflicts for:
ibm-wsrt-py37main-main -> cachetools==4.1.1[build=*]
google-auth -> cachetools[version='>=2.0.0,<3.2|>=2.0.0,<5.0|>=2.0.0,<3dev']

Package icu conflicts for:
ibm-wsrt-py37main-main -> icu==58.2[build=*]
libxslt -> icu[version='58.*|>=58.2,<59.0a0|>=64.2,<65.0a0|>=67.1,<68.0a0']
fontconfig -> icu[version='58.*|>=58.2,<59.0a0|>=64.2,<65.0a0|>=67.1,<68.0a0']
qt -> icu[version='58.*|>=58.2,<59.0a0|>=64.2,<65.0a0|>=67.1,<68.0a0']

libxml2 -> icu[version='56.*|58.*|>=58.2,<59.0a0|>=64.2,<65.0a0|>=67.1,<68.0a0']
matplotlib -> icu[version='>=58.2,<59.0a0']
matplotlib-base -> icu[version='>=58.2,<59.0a0|>=64.2,<65.0a0|>=67.1,<68.0a0']

Package mkl-service conflicts for:
scikit-learn -> mkl-service[version='>=2,<3.0a0']
ibm-wsrt-py37main-main -> mkl-service==2.3.0[build=*]
numexpr -> mkl-service[version='>=2,<3.0a0']
numpy -> mkl-service[version='>=2,<3.0a0']
numpy-base -> mkl-service[version='>=2,<3.0a0']
mkl_fft -> mkl-service[version='>=2,<3.0a0']
scipy -> mkl-service[version='>=2,<3.0a0']
mkl_random -> mkl-service[version='>=2,<3.0a0']
pytorch -> mkl-service[version='>=2,<3.0a0']

Package termcolor conflicts for:
ibm-wsrt-py37main-main -> termcolor==1.1.0[build=*]
tensorflow-estimator -> termcolor[version='>=1.1.0']
tensorflow-base -> termcolor[version='>=1.1.0|>=1.1.0,<2.0a0']

Package widgetsnbextension conflicts for:
ipywidgets -> widgetsnbextension[version='>=1.2.2|>=1.2.3|>=1.2.6|>=1.2.6,<2|>=2.0.0|>=2.0.0,<3.0.0|>=3.0.0|>=3.0.0,<3.1.0|>=3.1.0,<3.2.0|>=3.2.0,<3.3.0|>=3.3.0,<3.4.0|>=3.4.0,<3.5.0|>=3.5.0,<3.6.0|>=3.2.0,<4.0.0|>=3.1.0,<4.0.0|>=3.0.0,<4.0.0|>=3.1.0,<4.0']
arcgis=1.6.0 -> widgetsnbextension[version='>=3']
ibm-wsrt-py37main-main -> widgetsnbextension==3.5.1[build=*]

Package gmpy2 conflicts for:
sympy -> gmpy2[version='>=2.0.8']
mpmath -> gmpy2

Package scikit-learn conflicts for:
ibm-wsrt-py37main-main -> scikit-learn==0.23.1[build=*]
py-xgboost -> scikit-learn
nltk -> scikit-learn

Package libxml2 conflicts for:
qt -> libxml2[version='>=2.9.10,<2.10.0a0|>=2.9.9,<2.10.0a0|>=2.9.8,<2.10.0a0|>=2.9.7,<2.10.0a0']
fontconfig -> libxml2[version='2.9.*|>=2.9.10,<2.10.0a0|>=2.9.9,<2.10.0a0|>=2.9.8,<2.10.0a0|>=2.9.7,<2.10.0a0|>=2.9.4,<2.10.0a0']
ibm-wsrt-py37main-main -> libxml2==2.9.10[build=*]
libxslt -> libxml2[version='2.9.*|>=2.9.10,<2.10.0a0|>=2.9.9,<2.10.0a0|>=2.9.8,<2.10.0a0|>=2.9.7,<2.10.0a0|>=2.9.4,<2.10.0a0']
lxml -> libxml2[version='2.9.*|>=2.9.10,<2.10.0a0|>=2.9.9,<2.10.0a0|>=2.9.8,<2.10.0a0|2.9.3|>=2.9.7,<2.10.0a0|>=2.9.4,<2.10.0a0']

Package ipython conflicts for:
ipywidgets -> ipython[version='>=4.0.0']
ibm-wsrt-py37main-main -> ipython==7.15.0[build=*]
ipykernel -> ipython[version='>=4.0.0|>=4.0|>=5.0']

Package keyring conflicts for:
arcgis=1.6.0 -> keyring

ibm-wsrt-py37main-main -> keyring==18.0.0[build=*]

Package rsa conflicts for:
ibm-wsrt-py37main-main -> rsa==4.6[build=*]
google-auth -> rsa[version='>=3.1.4,<4.1|>=3.1.4,<5|>=3.1.4,<4dev']

Package pyparsing conflicts for:
ibm-wsrt-py37main-main -> pyparsing==2.4.7[build=*]
matplotlib -> pyparsing
nltk -> pyparsing
matplotlib-base -> pyparsing[version='>=2.0.3,!=2.0.4,!=2.1.2,!=2.1.6']
packaging -> pyparsing[version='>=2.0.2']

Package attrs conflicts for:
pytest -> attrs[version='>=17.2.0|>=17.4.0,<=19.1.0|>=17.4.0|>=19.2.0']
jsonschema -> attrs[version='>=17.4.0']
ibm-wsrt-py37main-main -> attrs==19.3.0[build=*]
aiohttp -> attrs[version='>=17.3.0|>=17.4.0']

Package ipykernel conflicts for:
ibm-wsrt-py37main-main -> ipykernel==5.3.0[build=*]
ipywidgets -> ipykernel[version='>=4.2.2|>=4.5.1']
notebook -> ipykernel

Package tqdm conflicts for:
ibm-wsrt-py37main-main -> tqdm==4.47.0[build=*]
nltk -> tqdm

Package pygments conflicts for:
ibm-wsrt-py37main-main -> pygments==2.6.1[build=*]
nbconvert -> pygments[version='>=2.4.1']
ipython -> pygments
prompt-toolkit -> pygments

Package funcsigs conflicts for:
mock -> funcsigs
pytest -> funcsigs[version='>=1.0']

Package six conflicts for:
tensorflow-estimator -> six[version='>=1.10.0']
bleach -> six
traitlets -> six
pytest -> six[version='>=1.10.0']
nltk -> six
absl-py -> six
more-itertools -> six[version='>=1.0.0,<2.0.0']
ibm-wsrt-py37main-main -> six==1.15.0[build=*]
mock -> six
google-auth -> six[version='>=1.9.0|>=1.9.0,<2dev']
retrying -> six[version='>=1.7.0']
h5py -> six
html5lib -> six[version='>=1.9']
protobuf -> six
prompt-toolkit -> six[version='>=1.9.0']
tensorflow-base -> six[version='>=1.10.0|>=1.12.0|>=1.12.0,<2.0a0']
plotly -> six
bokeh -> six[version='>=1.5.2']

```
jsonschema  -> six[version='>=1.11.0']
google-pasta  -> six
keras-preprocessing  -> six[version='>=1.9.0']
packaging  -> six
grpcio -> six[version='>=1.5.2']
arcgis=1.6.0 -> six
mkl-service  -> six
scikit-image -> six[version='>=1.4|>=1.7.3']
patsy -> six
pytables  -> six
tensorboard  -> six[version='>=1.10.0|>=1.12']
python-dateutil -> six[version='>=1.5']
cycler -> six
pyopenssl  -> six[version='>=1.5.2']
cryptography -> six[version='>=1.4.1']
pyrsistent -> six
```

Package unixodbc conflicts for:
```
freetds -> unixodbc[version='>=2.3.5,<2.4.0a0|>=2.3.7,<2.4.0a0|>=2.3.6,<2.4.0a0']
ibm-wsrt-py37main-main -> unixodbc==2.3.7[build=*]
pyodbc  -> unixodbc[version='2.3.4.*|2.3.4|>=2.3.5,<2.4.0a0|>=2.3.7,<2.4.0a0|>=2.3.9,<2.4.0a0|>=2.3.6,<2.4.0a0']
```

Package wrapt conflicts for:
```
tensorflow-estimator  -> wrapt[version='>=1.11.1']
tensorflow-base  ->  wrapt[version='>=1.11.1|>=1.11.2|>=1.12.1|>=1.11.2,<2.0a0']
ibm-wsrt-py37main-main  -> wrapt==1.12.1[build=*]
```

Package idna conflicts for:
```
ibm-wsrt-py37main-main -> idna==2.9[build=*]
requests  -> idna[version='>=2.5,<2.6|>=2.5,<2.7|>=2.5,<2.8|>=2.5,<2.9|>=2.5,<3']
cryptography ->idna[version='>=2.1']
yarl -> idna[version='>=2.0']
urllib3 -> idna[version='>=2.0.0']
```

Package opt_einsum conflicts for:
```
ibm-wsrt-py37main-main -> opt_einsum==3.1.0[build=*]
tensorflow-base  ->  opt_einsum[version='>=2.3.2,<3.0a0|>=2.3.2|>=3.1.0|>=3.1.0,<4.0a0']
```

Package subprocess32 conflicts for:
```
jupyterlab  -> subprocess32
matplotlib-base  ->subprocess32
matplotlib -> subprocess32
```

Package functools32 conflicts for:
```
jsonschema  -> functools32
matplotlib-base  -> functools32
matplotlib -> functools32
tensorflow-base  -> functools32[version='>=3.2.3.2']
```

Package lcms2 conflicts for:
```
pillow -> lcms2[version='>=2.11,<3.0a0']
ibm-wsrt-py37main-main -> lcms2==2.11[build=*]
```

Package olefile conflicts for:
pillow -> olefile
ibm-wsrt-py37main-main -> olefile==0.46[build=*]

Package absl-py conflicts for:
tensorflow-base -> absl-py[version='>=0.1.6|>=0.7.0|>=0.7.1|>=0.8.1|>=0.7.1,<1.0a0']
tensorflow-estimator -> absl-py[version='>=0.1.6|>=0.7.0']
ibm-wsrt-py37main-main -> absl-py==0.9.0[build=*]
tensorboard -> absl-py[version='>=0.4|>=0.8.0|>=0.7']

Package oauthlib conflicts for:
requests-oauthlib -> oauthlib[version='>=0.6.2|>=3.0.0|>=2.1.0,<3.0.0']
ibm-wsrt-py37main-main -> oauthlib==3.1.0[build=*]

Package pillow conflicts for:
scikit-image -> pillow[version='>=1.7.8|>=2.1.0|>=4.3.0']
matplotlib-base -> pillow[version='>=6.2.0']
imageio -> pillow
bokeh -> pillow[version='>=4.0|>=7.1.0']
ibm-wsrt-py37main-main -> pillow==7.2.0[build=*]

Package libcurl conflicts for:
hdf5 -> libcurl[version='>=7.71.1,<8.0a0']
tensorflow-base -> libcurl[version='>=7.64.1,<8.0a0|>=7.71.1,<8.0a0']

Package sip conflicts for:
pyqt -> sip[version='4.18|4.18.*|>=4.19.4,<=4.19.8|4.19.13.*|>=4.19.13,<=4.19.14']
ibm-wsrt-py37main-main -> sip==4.19.8[build=*]

Package prompt-toolkit conflicts for:
ipython -> prompt-toolkit[version='!=3.0.0,!=3.0.1,<3.1.0,>=2.0.0']
ibm-wsrt-py37main-main -> prompt-toolkit==3.0.5[build=*]

Package jeepney conflicts for:
ibm-wsrt-py37main-main -> jeepney==0.4.0[build=*]
keyring -> jeepney[version='>=0.4.2']
secretstorage -> jeepney[version='>=0.6']

Package prometheus_client conflicts for:
notebook -> prometheus_client
ibm-wsrt-py37main-main -> prometheus_client==0.8.0[build=*]

Package backports.weakref conflicts for:
tensorflow-estimator -> backports.weakref[version='>=1.0rc1']
tensorflow-base -> backports.weakref[version='>=1.0.0inf.1,<2.0a0|>=1.0|>=1.0rc1']

Package terminado conflicts for:
ibm-wsrt-py37main-main -> terminado==0.8.3[build=*]
notebook -> terminado[version='>=0.3.3|>=0.8.1|>=0.8.3']

Package traitlets conflicts for:
jupyter_client -> traitlets
notebook -> traitlets[version='>=4.2.1|>=4.3']

ipykernel -> traitlets[version='>=4.1']
ibm-wsrt-py37main-main -> traitlets==4.3.3[build=*]
ipython -> traitlets[version='>=4.2']
jupyter_core -> traitlets
nbformat -> traitlets[version='>=4.1']
ipywidgets -> traitlets[version='>=4.2.1|>=4.3.1|>=4.3.1,<5.0.0|>=4.3.1,<6.0.0']
nbconvert -> traitlets[version='>=4.2']

Package pluggy conflicts for:
pytest -> pluggy[version='>=0.12,<1.0|>=0.12,<1.0.0a1|>=0.9,!=0.10,<1.0|>=0.9|>=0.7|>=0.5,<0.7']
ibm-wsrt-py37main-main -> pluggy==0.13.1[build=*]

Package xz conflicts for:
libtiff -> xz[version='5.0.*|5.2.*|>=5.2.3,<5.3.0a0|>=5.2.4,<5.3.0a0|>=5.2.5,<5.3.0a0|>=5.2.5,<6.0a0|>=5.2.4,<6.0a0|>=5.2.3,<6.0a0']
gstreamer -> xz[version='>=5.2.3,<6.0a0|>=5.2.4,<5.3.0a0']
zstd -> xz[version='>=5.2.4,<5.3.0a0|>=5.2.5,<5.3.0a0|>=5.2.5,<6.0a0|>=5.2.4,<6.0a0']
ibm-wsrt-py37main-main -> xz==5.2.5[build=*]
python=3.7 -> xz[version='>=5.2.3,<5.3.0a0|>=5.2.4,<5.3.0a0|>=5.2.5,<5.3.0a0|>=5.2.5,<6.0a0|>=5.2.4,<6.0a0']
gst-plugins-base -> xz[version='>=5.2.3,<6.0a0|>=5.2.4,<5.3.0a0']
libxml2 -> xz[version='5.0.*|5.2.*|>=5.2.3,<5.3.0a0|>=5.2.4,<5.3.0a0|>=5.2.5,<5.3.0a0|>=5.2.5,<6.0a0|>=5.2.4,<6.0a0|>=5.2.3,<6.0a0']

Package pyasn1-modules conflicts for:
google-auth -> pyasn1-modules[version='>=0.0.5,<1dev|>=0.2.1']
ibm-wsrt-py37main-main -> pyasn1-modules==0.2.8[build=*]

Package ninja conflicts for:
pytorch -> ninja
ibm-wsrt-py37main-main -> ninja==1.9.0[build=*]

Package freetype conflicts for:
qt -> freetype[version='2.7|2.7.*|>=2.9.1,<3.0a0|>=2.8,<2.9.0a0']
matplotlib -> freetype[version='2.6.*|>=2.9.1,<3.0a0|>=2.8,<2.9.0a0']
pillow -> freetype[version='2.5.*|2.6.*|2.7|2.7.*|2.7|2.8.*|2.8.1|2.8.1.*|>=2.10.4,<3.0a0|>=2.9.1,<3.0a0|>=2.8.1,<2.9.0a0|>=2.10.3,<3.0a0|>=2.8,<2.9.0a0']
ibm-wsrt-py37main-main -> freetype==2.10.2[build=*]
fontconfig -> freetype[version='2.6.*|2.7|2.7.*|2.7|2.8.1|>=2.10.4,<3.0a0|>=2.9.1,<3.0a0|>=2.8.1,<2.9.0a0|>=2.9,<3.0a0|>=2.8,<2.9.0a0']
matplotlib-base -> freetype[version='>=2.10.2,<3.0a0|>=2.10.4,<3.0a0|>=2.9.1,<3.0a0']

Package mkl conflicts for:
numpy -> mkl[version='>=2018.0.0,<2019.0a0|>=2018.0.1,<2019.0a0|>=2018.0.2,<2019.0a0|>=2018.0.3,<2019.0a0|>=2019.1,<2021.0a0|>=2019.3,<2021.0a0|>=2019.4,<2021.0a0']
mkl_fft -> mkl[version='>=2018.0.3,<2019.0a0|>=2019.1,<2020.0a0|>=2019.3,<2020.0a0|>=2019.4,<2020.0a0|>=2020.2,<2021.0a0|>=2019.4,<2021.0a0|>=2019.3,<2021.0a0|>=2019.1,<2021.0a0']
mkl-service -> mkl[version='>=2018.0.0,<2019.0a0|>=2018.0.3,<2019.0a0|>=2019.1,<2021.0a0|>=2019.3,<2020.0a0|>=2019.4,<2020.0a0|>=2020.2,<2021.0a0|>=2019.4,<2021.0a0|>=2019.3,<2021.0a0']

mkl_random -> mkl[version='>=2018.0.3,<2019.0a0|>=2019.1,<2020.0a0|>=2019.3,<2020.0a0|>=2019.4,<2020.0a0|>=2020.0,<2021.0a0|>=2020.2,<2021.0a0|>=2020.1,<2021.0a0|>=2019.4,<2021.0a0|>=2019.1,<2021.0a0']
tensorflow-base -> mkl[version='>=2018.0.2,<2019.0a0']
ibm-wsrt-py37main-main -> mkl==2020.1[build=*]
scipy -> mkl[version='>=2018.0.0,<2019.0a0|>=2018.0.2,<2019.0a0|>=2018.0.3,<2019.0a0|>=2019.1,<2021.0a0|>=2019.4,<2021.0a0']
scikit-learn -> mkl[version='>=2018.0.0,<2019.0a0|>=2018.0.3,<2019.0a0|>=2019.1,<2021.0a0|>=2019.3,<2021.0a0|>=2019.4,<2021.0a0']
pytorch -> mkl[version='2019.*|>=2019.4,<2021.0a0|>=2019.1,<2021.0a0|>=2018.0.3,<2019.0a0|>=2018.0.2,<2019.0a0']
blas -> mkl
numpy-base -> mkl[version='>=2018.0.2,<2019.0a0|>=2018.0.3,<2019.0a0|>=2019.1,<2021.0a0|>=2019.3,<2021.0a0|>=2019.4,<2021.0a0']
numexpr -> mkl[version='>=2018.0.0,<2019.0a0|>=2018.0.1,<2019.0a0|>=2018.0.2,<2019.0a0|>=2018.0.3,<2019.0a0|>=2019.1,<2021.0a0|>=2019.4,<2021.0a0']

Package grpcio conflicts for:
tensorflow-estimator -> grpcio[version='>=1.8.6']
tensorboard -> grpcio[version='>=1.14|>=1.24.3|>=1.6.3']
tensorflow-base -> grpcio[version='>=1.14.1,<2.0a0|>=1.14.1|>=1.16.1|>=1.8.6']
ibm-wsrt-py37main-main -> grpcio==1.27.2[build=*]

Package ld_impl_linux-64 conflicts for:
python=3.7 -> ld_impl_linux-64[version='>=2.34']
ibm-wsrt-py37main-main -> ld_impl_linux-64==2.33.1[build=*]

Package py conflicts for:
pyzmq -> py
ibm-wsrt-py37main-main -> py==1.8.2[build=*]
pytest -> py[version='>=1.4.29|>=1.4.33|>=1.5.0|>=1.8.2']

Package sqlite conflicts for:
ibm-wsrt-py37main-main -> sqlite==3.33.0[build=*]
python=3.7 -> sqlite[version='>=3.24.0,<4.0a0|>=3.25.1,<4.0a0|>=3.25.2,<4.0a0|>=3.25.3,<4.0a0|>=3.26.0,<4.0a0|>=3.28.0,<4.0a0|>=3.30.1,<4.0a0|>=3.32.3,<4.0a0|>=3.33.0,<4.0a0|>=3.34.0,<4.0a0|>=3.31.1,<4.0a0|>=3.29.0,<4.0a0|>=3.27.2,<4.0a0']
qt -> sqlite[version='>=3.20.1,<4.0a0|>=3.22.0,<4.0a0|>=3.23.1,<4.0a0|>=3.24.0,<4.0a0|>=3.25.3,<4.0a0|>=3.26.0,<4.0a0|>=3.28.0,<4.0a0|>=3.29.0,<4.0a0|>=3.30.1,<4.0a0|>=3.33.0,<4.0a0']

Package contextlib2 conflicts for:
importlib_metadata -> contextlib2
importlib-metadata -> contextlib2

Package libxcb conflicts for:
qt -> libxcb[version='>=1.12,<2.0a0|>=1.13,<2.0a0']
ibm-wsrt-py37main-main -> libxcb==1.14[build=*]
gst-plugins-base -> libxcb[version='>=1.12,<2.0a0|>=1.13,<2.0a0']

Package openmpi conflicts for:
hdf5 -> openmpi[version='>=3.1,<3.2.0a0|>=4.0,<4.1.0a0']
h5py -> openmpi[version='>=3.1,<3.2.0a0|>=3.1.4,<3.2.0a0|>=4.0.1,<4.1.0a0|>=4.0.2,<4.1.0a0|>=4.0.4,<4.1.0a0|>=4.0.5,<4.1.0a0']

Package llvm-openmp conflicts for:
blas -> llvm-openmp[version='>=10.0.0|>=11.0.0|>=9.0.1']
mkl -> llvm-openmp[version='>=10.0.0|>=11.0.0|>=9.0.1']

Package libprotobuf conflicts for:
protobuf -> libprotobuf[version='3.10.0.*|3.10.1.*|3.11.0.*|3.11.1.*|3.11.2.*
|3.11.3.*|3.11.4.*|3.12.1.*|3.12.3.*|3.12.4.*|3.13.0.*|3.13.0.1.*|3.14.0.*|>=
3.14.0,<3.15.0a0|>=3.13.0.1,<3.14.0a0|>=3.13.0,<3.14.0a0|>=3.12.4,<3.13.0a0|>
=3.12.3,<3.13.0a0|>=3.12.1,<3.13.0a0|>=3.11.4,<3.12.0a0|>=3.11.3,<3.12.0a0|>=
3.11.2,<3.12.0a0|>=3.11.1,<3.12.0a0|>=3.11.0,<3.12.0a0|>=3.10.1,<3.11.0a0|>=
3.10.0,<3.11.0a0|3.9.2.*|>=3.9.2,<3.10.0a0|3.9.1.*|>=3.9.1,<3.10.0a0|3.9.0.*|
>=3.9.0,<3.10.0a0|3.8.0.*|>=3.8.0,<3.9.0a0|3.7.1.*|>=3.7.1,<3.8.0a0|3.7.0.*|>
=3.7.0,<3.7.1.0a0|3.6.1.*|>=3.6.1,<3.6.2.0a0|3.6.0.*|>=3.6.0,<3.6.1.0a0|3.5.
2.*|3.5.2|3.5.1.1|3.5.1|>=3.5.2,<3.6.0a0|>=3.5.1,<3.6.0a0|>=3.4.1,<3.5.0a0']
tensorflow-base -> libprotobuf[version='>=3.6.1,<3.7.0a0|>=3.8.0,<3.9.0a0|>=
3.9.1,<3.10.0a0']
ibm-wsrt-py37main-main -> libprotobuf==3.12.3[build=*]

Package matplotlib conflicts for:
scikit-image -> matplotlib[version='>=1.1|>=1.3.1|>=2.0.0']
bokeh -> matplotlib
nltk -> matplotlib
seaborn -> matplotlib[version='>=1.4.3|>=2.1.2']
ibm-wsrt-py37main-main -> matplotlib==3.2.2[build=*]
arcgis=1.6.0 -> matplotlib

Package patsy conflicts for:
ibm-wsrt-py37main-main -> patsy==0.5.1[build=*]
seaborn -> patsy
statsmodels -> patsy[version='>=0.4.0|>=0.5.1']

Package bleach conflicts for:
tensorboard -> bleach[version='1.5.0|>=1.5.0,<1.5.1.0a0']
ibm-wsrt-py37main-main -> bleach==3.1.5[build=*]
nbconvert -> bleach

Package libedit conflicts for:
sqlite -> libedit[version='>=3.1.20170329,<3.2.0a0|>=3.1.20181209,<3.2.0a0|>=
3.1.20191231,<3.2.0a0']
unixodbc -> libedit[version='>=3.1.20170329,<3.2.0a0|>=3.1.20191231,<3.2.0a
0']
krb5 -> libedit[version='>=3.1,<4.0a0|>=3.1.20170329,<3.2.0a0|>=3.1.20170329,
<4.0a0|>=3.1.20191231,<3.2.0a0|>=3.1.20191231,<4.0a0|>=3.1.20181209,<3.2.0a0|
>=3.1.20181209,<4.0a0']
ibm-wsrt-py37main-main -> libedit==3.1.20191231[build=*]

Package h5py conflicts for:
ibm-wsrt-py37main-main -> h5py==2.10.0[build=*]
tensorflow-base -> h5py[version='>=2.10.0,<2.11.0a0']
keras-applications -> h5py

Package tk conflicts for:
matplotlib-base -> tk[version='>=8.6.10,<8.7.0a0|>=8.6.9,<8.7.0a0|>=8.6.8,<8.
7.0a0']
matplotlib -> tk[version='8.5.*|8.6.*|>=8.6.8,<8.7.0a0|>=8.6.7,<8.7.0a0']
krb5 -> tk[version='8.6.*|>=8.6.10,<8.7.0a0|>=8.6.9,<8.7.0a0|>=8.6.8,<8.7.0a0
|>=8.6.7,<8.7.0a0']

ibm-wsrt-py37main-main -> tk==8.6.10[build=*]
python=3.7 -> tk[version='>=8.6.10,<8.7.0a0|>=8.6.9,<8.7.0a0|>=8.6.8,<8.7.0a0
|>=8.6.7,<8.7.0a0']
pillow -> tk[version='8.6.*|>=8.6.10,<8.7.0a0|>=8.6.9,<8.7.0a0|>=8.6.8,<8.7.0
a0|>=8.6.7,<8.7.0a0']

Package jsonschema conflicts for:
ibm-wsrt-py37main-main -> jsonschema==3.2.0[build=*]
jupyterlab_server -> jsonschema[version='>=3.0.1']
nbformat -> jsonschema[version='>=2.0,!=2.5.0|>=2.4,!=2.5.0']

Package pytest conflicts for:
astropy -> pytest[version='<3.7|<4']
ibm-wsrt-py37main-main -> pytest==5.4.3[build=*]

Package gettext conflicts for:
gst-plugins-base -> gettext[version='>=0.19.8.1,<1.0a0']
glib -> gettext[version='>=0.19.8.1,<1.0a0']
gstreamer -> gettext[version='>=0.19.8.1,<1.0a0']

Package wheel conflicts for:
tensorboard -> wheel[version='>=0.26']
pip -> wheel
ibm-wsrt-py37main-main -> wheel==0.34.2[build=*]

Package ptyprocess conflicts for:
pexpect -> ptyprocess[version='>=0.5']
ibm-wsrt-py37main-main -> ptyprocess==0.6.0[build=*]
terminado -> ptyprocess

Package ca-certificates conflicts for:
openssl -> ca-certificates
ibm-wsrt-py37main-main -> ca-certificates==2020.10.14[build=*]

Package importlib-metadata conflicts for:
pytest -> importlib-metadata[version='>=0.12']
ibm-wsrt-py37main-main -> importlib-metadata==1.6.1[build=*]
markdown -> importlib-metadata
importlib_metadata -> importlib-metadata[version='>=1.1.3,<1.1.4.0a0|>=1.5.0,
<1.5.1.0a0|>=1.5.2,<1.5.3.0a0|>=1.6.0,<1.6.1.0a0|>=1.6.1,<1.6.2.0a0|>=1.7.0,<
1.7.1.0a0|>=2.0.0,<2.0.1.0a0|>=3.0.0,<3.0.1.0a0|>=3.1.0,<3.1.1.0a0|>=3.1.1,<
3.1.2.0a0']
keyring -> importlib-metadata

Package freetds conflicts for:
pymssql -> freetds[version='>=1.0.91,<2.0a0|>=1.0.97,<2.0a0']
ibm-wsrt-py37main-main -> freetds==1.00.97[build=*]

Package pyasn1 conflicts for:
rsa -> pyasn1[version='>=0.1.3']
pyasn1-modules -> pyasn1[version='0.3.3|>=0.3.4,<0.4.0|>=0.4.1,<0.5.0|>=0.4.
6,<0.5.0|>=0.1.8']
ibm-wsrt-py37main-main -> pyasn1==0.4.8[build=*]
google-auth -> pyasn1[version='>=0.1.7,<1dev']

Package enum34 conflicts for:
tensorflow-estimator -> enum34[version='>=1.1.6']

pyqt -> enum34
imageio -> enum34
traitlets -> enum34
brotlipy -> enum34
cryptography -> enum34
tensorflow-base -> enum34[version='>=1.1.6|>=1.1.6,<2.0a0']
grpcio -> enum34[version='>=1.0.4']
absl-py -> enum34

Package pyzmq conflicts for:
jupyter_client -> pyzmq[version='>=13']
notebook -> pyzmq[version='>=17']
ibm-wsrt-py37main-main -> pyzmq==19.0.1[build=*]

Package ncurses conflicts for:
ibm-wsrt-py37main-main -> ncurses==6.2[build=*]
libedit -> ncurses[version='5.9|>=6.1,<6.3.0a0|>=6.2,<6.3.0a0|>=6.2,<7.0a0|>=6.1,<7.0a0|6.0.*']
sqlite -> ncurses[version='5.9|5.9.*|>=6.1,<6.3.0a0|>=6.2,<6.3.0a0|>=6.2,<7.0a0']
python=3.7 -> ncurses[version='>=6.1,<6.3.0a0|>=6.2,<6.3.0a0|>=6.2,<7.0a0|>=6.1,<7.0a0']
readline -> ncurses[version='5.9.*|>=6.1,<6.3.0a0|>=6.2,<6.3.0a0|>=6.1,<7.0a0|>=6.0,<7.0a0|6.0.*']

Package libiconv conflicts for:
unixodbc -> libiconv[version='>=1.15,<1.17.0a0|>=1.16,<1.17.0a0']
glib -> libiconv[version='1.15|>=1.15,<1.17.0a0|>=1.16,<1.17.0a0']
fontconfig -> libiconv[version='1.15|>=1.15,<1.17.0a0']
libxml2 -> libiconv[version='1.15|>=1.15,<1.17.0a0|>=1.16,<1.17.0a0']

Package libgfortran4 conflicts for:
hdf5 -> libgfortran4[version='>=7.5.0']
blas -> libgfortran4[version='>=7.5.0']
libgfortran-ng -> libgfortran4=7.5.0
scipy -> libgfortran4[version='>=7.5.0']

Package libxslt conflicts for:
lxml -> libxslt[version='>=1.1.32,<2.0a0|>=1.1.33,<2.0a0|>=1.1.34,<2.0a0']
ibm-wsrt-py37main-main -> libxslt==1.1.34[build=*]

Package nbformat conflicts for:
ipywidgets -> nbformat[version='>=4.2.0']
notebook -> nbformat
nbconvert -> nbformat[version='>=4.4']
ibm-wsrt-py37main-main -> nbformat==5.0.7[build=*]
plotly -> nbformat[version='>=4.2']

Package configparser conflicts for:
entrypoints -> configparser[version='>=3.5']
importlib-metadata -> configparser[version='>=3.5']
importlib_metadata -> configparser[version='>=3.5']

Package mkl_fft conflicts for:
ibm-wsrt-py37main-main -> mkl_fft==1.1.0[build=*]
numpy -> mkl_fft[version='>=1.0.4|>=1.0.6,<2.0a0']

Package libblas conflicts for:
blas -> libblas[version='3.8.0|3.9.0|3.9.0|3.9.0|3.9.0|3.9.0|3.9.0|3.9.0|3.9.0',build='0_h6e990d7_netlib|1_h6e990d7_netlib|2_blis|2_openblas|3_blis|3_openblas|4_blis|5_openblas|6_blis|6_mkl|7_blis|7_openblas|7_mkl|8_blis|8_h6e990d7_netlib|9_mkl|10_h86c2bf4_netlib|12_openblas|13_openblas|14_blis|14_mkl|15_blis|15_mkl|16_openblas|16_blis|17_openblas|20_mkl|21_mkl|19_mkl|18_mkl|16_mkl|15_openblas|14_openblas|13_mkl|13_blis|12_mkl|12_blis|11_h86c2bf4_netlib|11_mkl|11_openblas|11_blis|10_mkl|10_openblas|10_blis|9_openblas|9_blis|8_mkl|8_openblas|7_h6e990d7_netlib|6_h6e990d7_netlib|6_openblas|5_mkl|5_blis|5_h6e990d7_netlib|4_h6e990d7_netlib|4_mkl|4_openblas|0_openblas|0_blis']
numpy -> libblas[version='>=3.8.0,<4.0a0']
scipy -> libblas[version='>=3.8.0,<4.0a0']

Package numpy-base conflicts for:
mkl_random -> numpy-base[version='>=1.0.2,<2.0a0']
mkl_fft -> numpy-base[version='>=1.0.6,<2.0a0']
numexpr -> numpy-base[version='>=1.17.3,<2.0a0']
ibm-wsrt-py37main-main -> numpy-base==1.18.5[build=*]
numpy -> numpy-base[version='1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.11.3|1.14.3|1.14.3|1.14.3|1.14.3|1.14.3|1.14.4|1.14.4|1.14.4|1.14.4|1.14.4|1.14.4|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.5|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.14.6|1.15.0|1.15.0|1.15.0|1.15.0|1.15.0|1.15.0|1.15.0|1.15.0|1.15.1|1.15.1|1.15.1|1.15.1|1.15.1|1.15.1|1.15.1|1.15.1|1.15.1|1.15.1|1.15.1|1.15.1|1.15.2|1.15.2|1.15.2|1.15.2|1.15.2|1.15.2|1.15.2|1.15.2|1.15.2|1.15.2|1.15.2|1.15.2|1.15.3|1.15.3|1.15.3|1.15.3|1.15.3|1.15.3|1.15.4|1.15.4|1.15.4|1.15.4|1.15.4|1.15.4|1.15.4|1.15.4|1.16.0|1.16.0|1.16.0|1.16.0|1.16.0|1.16.0|1.16.0|1.16.0|1.16.0|1.16.0|1.16.0|1.16.0|1.16.1|1.16.1|1.16.1|1.16.1|1.16.1|1.16.1|1.16.1|1.16.1|1.16.1|1.16.1|1.16.1|1.16.1|1.16.2|1.16.2|1.16.2|1.16.2|1.16.2|1.16.2|1.16.3|1.16.3|1.16.3|1.16.3|1.16.3|1.16.3|1.16.4|1.16.4|1.16.4|1.16.4|1.16.4|1.16.5|1.16.5|1.16.5|1.16.5|1.16.5|1.16.5|1.16.6|1.16.6|1.16.6|1.16.6|1.16.6|1.16.6|1.16.6|1.16.6|1.16.6|1.17.2.*|1.17.3.*|1.17.4.*|1.18.1.*|1.18.5.*|1.19.1|1.19.1|1.19.1|1.19.1|1.19.1|1.19.1|1.19.2|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|1.9.3|>=1.9.3,<2.0a0',build='py36h2b20989_6|py37hdbf6ddf_6|py36hdbf6ddf_7|py27hdbf6ddf_7|py36hdbf6ddf_7|py36hdbf6ddf_8|py35hdbf6ddf_8|py35h2b20989_8|py35h7cdd4dd_9|py27h7cdd4dd_9|py27h3dfced4_9|py36h81de0dd_9|py27h74e8950_9|py35h74e8950_9|py37h74e8950_10|py27h74e8950_10|py36h74e8950_10|py37h81de0dd_10|py27h2f8d375_10|py35h2f8d375_10|py27h2f8d375_11|py36h2f8d375_11|py36hde5b4d6_11|py37h2f8d375_12|py27h2f8d375_12|py36h2f8d375_12|py37hde5b4d6_12|py38hde5b4d6_12|py36h0ea5e3f_1|py27h2b20989_0|py36h2b20989_0|py27hdbf6ddf_0|py35hdbf6ddf_0|py36hdbf6ddf_0|py27hdbf6ddf_0|py35hdbf6ddf_0|py37h2b20989_1|py27hdbf6ddf_1|py36hdbf6ddf_1|py27hdbf6ddf_2|py37hdbf6ddf_2|py36h2b20989_3|py37h2b20989_4|py37hdbf6ddf_4|py36h2b20989_4|py35h2b20989_4|py37h2f8d375_4|py27h81de0dd_4|py27h2f8d375_4|py36h81de0dd_4|py38hde5b4d6_4|py27h2f8d375_5|py27h7cdd4dd_0|py37h7cdd4dd_0|py27h3dfced4_0|py36h3dfced4_0|py35h3dfced4_0|py37h3dfced4_0|py37h74e8950_0|py36h81de0dd_0|py27h81de0dd_0|py37h81de0dd_0|py35h2f8d375_0|py27h2f8d375_0|py27h2f8d375_0|py35h2f8d375_0|py36h81de0dd_0|py36h2f8d375_1|py27h81de0dd_1|py27h2f8d375_0|py27h81de0dd_0|py36h81de0dd_0|py27h2f8d375_0|py36h81de0dd_0|py27h81de0dd_0|py27hde5b4d6_0|py36hde5b4d6_0|py37hde5b4d6_0|py27h2f8d375_0|py37h2f8d375_0|py27

hde5b4d6_0|py36hde5b4d6_0|py36hde5b4d6_1|py27h2f8d375_0|py27hde5b4d6_0|py37h2
f8d375_1|py27h2f8d375_0|py37hde5b4d6_0|py36hde5b4d6_0|py27h2f8d375_0|py37hde5
b4d6_0|py36hde5b4d6_0|py27h2f8d375_0|py36h2f8d375_0|py37hde5b4d6_0|py36hde5b4
d6_0|py36h2f8d375_0|py27h2f8d375_0|py37hde5b4d6_0|py36hde5b4d6_0|py36h2f8d375
_0|py37hde5b4d6_0|py27h2f8d375_0|py39h76555f2_1|py38h75fe3a5_0|py38hfa32c7d_0
|py36hfa32c7d_0|py36h75fe3a5_0|py37h75fe3a5_0|py37hfa32c7d_0|py36h75fe3a5_0|p
y36hfa32c7d_0|py38hfa32c7d_0|py39h2ae0177_0|py39h0f7b65f_0|py37h75fe3a5_0|py3
8h75fe3a5_0|py37hfa32c7d_0|py39hfb011de_1|py27hde5b4d6_0|py38hde5b4d6_0|py38h
2f8d375_0|py36hde5b4d6_0|py37h2f8d375_0|py27hde5b4d6_0|py37h2f8d375_0|py27hde
5b4d6_0|py37h2f8d375_0|py27hde5b4d6_0|py36h2f8d375_0|py37h2f8d375_0|py27hde5b
4d6_0|py36h2f8d375_0|py37h2f8d375_0|py27hde5b4d6_1|py36hde5b4d6_1|py37hde5b4d
6_1|py36h2f8d375_1|py27h2f8d375_1|py37hde5b4d6_0|py36hde5b4d6_0|py36h2f8d375_
0|py37h2f8d375_0|py27hde5b4d6_1|py37hde5b4d6_1|py36h2f8d375_1|py27h2f8d375_1|
py37h2f8d375_1|py36h2f8d375_0|py37hde5b4d6_0|py37h81de0dd_0|py36h2f8d375_0|py
37h2f8d375_0|py37h81de0dd_0|py37h2f8d375_0|py36h2f8d375_0|py37h2f8d375_1|py37
h81de0dd_1|py36h81de0dd_1|py27h2f8d375_1|py36h2f8d375_0|py35h81de0dd_0|py27h8
1de0dd_0|py37h81de0dd_0|py37h2f8d375_0|py37h2f8d375_0|py36h2f8d375_0|py35h81d
e0dd_0|py36h74e8950_0|py27h74e8950_0|py35h74e8950_0|py35h7cdd4dd_0|py36h7cdd4
dd_0|py36hde5b4d6_5|py37hde5b4d6_5|py27hde5b4d6_5|py37h2f8d375_5|py36h2f8d375
_5|py38h2f8d375_4|py37h81de0dd_4|py35h81de0dd_4|py36h2f8d375_4|py35h2f8d375_4
|py35hdbf6ddf_4|py36hdbf6ddf_4|py27hdbf6ddf_4|py27h2b20989_4|py27hdbf6ddf_3|p
y27h2b20989_3|py36hdbf6ddf_3|py37hdbf6ddf_3|py37h2b20989_3|py36hdbf6ddf_2|py3
7h2b20989_2|py36h2b20989_2|py27h2b20989_2|py27h2b20989_1|py37hdbf6ddf_1|py36h
2b20989_1|py27h2b20989_0|py36h2b20989_0|py36hdbf6ddf_0|py35h2b20989_0|py35h9b
e14a7_1|py27h9be14a7_1|py36h9be14a7_1|py35h0ea5e3f_1|py27h0ea5e3f_1|py38h2f8d
375_12|py36hde5b4d6_12|py27hde5b4d6_12|py27hde5b4d6_11|py37hde5b4d6_11|py37h2
f8d375_11|py36h2f8d375_10|py37h2f8d375_10|py35h81de0dd_10|py36h81de0dd_10|py2
7h81de0dd_10|py35h74e8950_10|py35h81de0dd_9|py27h81de0dd_9|py36h74e8950_9|py3
7h74e8950_9|py37h81de0dd_9|py35h3dfced4_9|py36h3dfced4_9|py37h3dfced4_9|py37h
7cdd4dd_9|py36h7cdd4dd_9|py27hdbf6ddf_8|py27h2b20989_8|py37h2b20989_8|py37hdb
f6ddf_8|py36h2b20989_8|py37hdbf6ddf_7|py36h2b20989_7|py27h2b20989_7|py37h2b20
989_7|py37h2b20989_7|py37hdbf6ddf_7|py35h2b20989_7|py35hdbf6ddf_7|py36h2b2098
9_7|py27h2b20989_7|py27hdbf6ddf_7|py36hdbf6ddf_6|py27hdbf6ddf_6|py37h2b20989_
6|py27h2b20989_6']

Package werkzeug conflicts for:
tensorboard -> werkzeug[version='>=0.11.10|>=0.11.15|>=0.14']
tensorflow-base -> werkzeug[version='>=0.14.1,<1.0a0']
ibm-wsrt-py37main-main -> werkzeug==1.0.1[build=*]

Package libgfortran-ng conflicts for:
ibm-wsrt-py37main-main -> libgfortran-ng==7.3.0[build=*]
numpy-base -> libgfortran-ng[version='>=7,<8.0a0']
numpy -> libgfortran-ng[version='>=4.9|>=7,<8.0a0|>=7.2.0,<8.0a0']
blas -> libgfortran-ng[version='>=7,<8.0a0']
scipy -> libgfortran-ng[version='>=7,<8.0a0|>=7.2.0,<8.0a0']
hdf5 -> libgfortran-ng[version='>=7,<8.0a0|>=7.2.0,<8.0a0']

Package dbus conflicts for:
secretstorage -> dbus
pyqt -> dbus[version='>=1.10.22,<2.0a0|>=1.12.2,<2.0a0|>=1.13.12,<2.0a0|>=1.1
3.6,<2.0a0|>=1.13.2,<2.0a0']
ibm-wsrt-py37main-main -> dbus==1.13.16[build=*]
qt -> dbus[version='>=1.10.22,<2.0a0|>=1.12.2,<2.0a0|>=1.13.0,<2.0a0|>=1.13.
6,<2.0a0|>=1.13.2,<2.0a0']

Package wcwidth conflicts for:

ibm-wsrt-py37main-main -> wcwidth==0.2.4[build=*]
pytest -> wcwidth
prompt-toolkit -> wcwidth

Package qt conflicts for:
ibm-wsrt-py37main-main -> qt==5.9.7[build=*]
pyqt -> qt[version='4.8.*|5.6.*|5.9.*|>=5.12.5,<5.13.0a0|>=5.12.9,<5.13.0a0|>=5.9.7,<5.10.0a0|>=5.6.2,<5.7.0a0|>=4.8.6,<5.0|>=5.9.6,<5.10.0a0|>=5.9.4,<5.10.0a0|>=5.6.3,<5.7.0a0']

Package pandoc conflicts for:
nbconvert -> pandoc[version='>=1.12.1|>=1.12.1,<2.0.0']
ibm-wsrt-py37main-main -> pandoc==2.9.2.1[build=*]

Package pysocks conflicts for:
ibm-wsrt-py37main-main -> pysocks==1.7.1[build=*]
urllib3 -> pysocks[version='>=1.5.6,<2.0,!=1.5.7']

Package jupyterlab_server conflicts for:
ibm-wsrt-py37main-main -> jupyterlab_server==1.1.0[build=*]
jupyterlab ->jupyterlab_server[version='>=0.2.0,<0.3.0|>=1.0.0,<2.0.0|>=1.1.0,<2.0.0']

Package nbconvert conflicts for:
notebook -> nbconvert[version='<6.0']
ibm-wsrt-py37main-main -> nbconvert==5.6.1[build=*]

Package cudnn conflicts for:
tensorflow-base -> cudnn[version='>=7.0.0,<=8.0a0|>=7.1.0,<=8.0a0|>=7.2.0,<=8.0a0|>=7.3.1,<8.0a0|>=7.6,<8.0a0|>=7.6.5,<8.0a0|>=7.6.0,<8.0a0|>=7.6.4,<8.0a0|>=7.1.2,<=8.0a0|>=7.0.5,<=8.0a0']
pytorch -> cudnn[version='5.1.*|6.0.*|>=7.0.0,<=8.0a0|>=7.0.5,<=8.0a0|>=7.1.0,<=8.0a0|>=7.1.3,<8.0a0|>=7.3.0,<=8.0a0|>=7.6,<8.0a0|>=7.6.5,<8.0a0|>=7.6.4,<8.0a0|>=7.3.1,<8.0a0|>=7.1.2,<=8.0a0']

Package _pytorch_select conflicts for:
ibm-wsrt-py37main-main -> _pytorch_select==0.1[build=*]
pytorch -> _pytorch_select[version='0.1|0.2']

Package click conflicts for:
nltk -> click
ibm-wsrt-py37main-main -> click==7.1.2[build=*]
google-auth-oauthlib -> click

Package pcre conflicts for:
ibm-wsrt-py37main-main -> pcre==8.44[build=*]
gstreamer -> pcre[version='>=8.41,<9.0a0|>=8.43,<9.0a0|>=8.42,<9.0a0']
glib -> pcre[version='>=8.41,<9.0a0|>=8.43,<9.0a0|>=8.44,<9.0a0|>=8.42,<9.0a0']

Package cycler conflicts for:
ibm-wsrt-py37main-main -> cycler==0.10.0[build=*]
matplotlib -> cycler[version='>=0.10']
matplotlib-base -> cycler[version='>=0.10']

Package libtiff conflicts for:
lcms2 -> libtiff[version='>=4.0.10,<5.0a0|>=4.1.0,<5.0a0']

pillow -> libtiff[version='4.*|4.0.*|>=4.0.10,<5.0a0|>=4.1.0,<5.0a0|>=4.0.9,<
5.0a0|>=4.0.8,<4.0.10|>=4.0.3,<4.0.8|4.0.6|>=4.0.8,<5.0a0']
qt -> libtiff[version='4.0.*|>=4.0.10,<5.0a0']
ibm-wsrt-py37main-main -> libtiff==4.1.0[build=*]

Package fastcache conflicts for:
ibm-wsrt-py37main-main -> fastcache==1.1.0[build=*]
sympy -> fastcache

Package cudatoolkit conflicts for:
libxgboost -> cudatoolkit[version='8.0.*|>=10.0.130,<10.1.0a0|>=9.0,<9.1.0a0|
>=9.2,<9.3.0a0|9.0.*|9.2.*']
pytorch -> cudatoolkit[version='10.0.*|>=10.0.130,<10.1.0a0|>=10.1.243,<10.2.
0a0|>=9.2,<9.3.0a0|9.2.*|>=9.0,<9.1.0a0|>=8.0,<8.1.0a0|9.0.*|8.0.*|7.5.*']
py-xgboost -> cudatoolkit[version='8.0.*|>=10.0.130,<10.1.0a0|>=9.0,<9.1.0a0|
>=9.2,<9.3.0a0|9.0.*|9.2.*']
tensorflow-base -> cudatoolkit[version='8.0.*|9.0.*|9.2.*|>=10.0.130,<10.1.0a
0|>=10.1.243,<10.2.0a0|>=10.1.168,<10.2.0a0|>=9.2,<9.3.0a0|>=9.0,<9.1.0a0']

Package c-ares conflicts for:
ibm-wsrt-py37main-main -> c-ares==1.15.0[build=*]
grpcio -> c-ares[version='>=1.14.0,<2.0a0|>=1.15.0,<2.0a0|>=1.16.1,<2.0a0|>=
1.17.1,<2.0a0']

Package tensorflow-base conflicts for:
tensorflow-estimator -> tensorflow-base[version='>=1.14.0,<1.15.0a0|>=1.15.0,
<1.16.0a0|>=2.0.0,<2.1.0a0|>=2.1.0,<2.2.0a0|>=2.2.0,<2.3.0a0|>=2.3.0,<2.4.0a
0']
ibm-wsrt-py37main-main -> tensorflow-base==2.1.0[build=*]

Package hdf5 conflicts for:
h5py -> hdf5[version='1.10.1|1.10.1.*|1.10.2.*|>=1.10.3,<1.10.4.0a0|>=1.10.4,
<1.10.5.0a0|>=1.10.4,<1.10.5.0a0|>=1.10.4,<1.10.5.0a0|>=1.10.5,<1.10.6.0a0|>=
1.10.5,<1.10.6.0a0|>=1.10.5,<1.10.6.0a0|>=1.10.6,<1.10.7.0a0|>=1.10.2,<1.10.
3.0a0|1.8.18|1.8.18.*|1.8.17|1.8.17.*|1.8.17.*|1.8.15.*|>=1.8.20,<1.9.0a0|>=
1.8.18,<1.8.19.0a0|>=1.10.1,<1.10.2.0a0',build='mpi_mpich_*|mpi_mpich_*|mpi_o
penmpi_*|mpi_openmpi_*|mpi_openmpi_*|mpi_mpich_*']
ibm-wsrt-py37main-main -> hdf5==1.10.4[build=*]
pytables -> hdf5[version='1.10.1.*|1.10.1|>=1.10.3,<1.10.4.0a0|>=1.10.4,<1.1
0.5.0a0|>=1.10.5,<1.10.6.0a0|>=1.10.6,<1.10.7.0a0|>=1.10.2,<1.10.3.0a0|1.8.18
|1.8.18.*|1.8.17|1.8.17.*|>=1.8.20,<1.9.0a0|>=1.8.18,<1.8.19.0a0|>=1.10.1,<1.
10.2.0a0']

Package backcall conflicts for:
ibm-wsrt-py37main-main -> backcall==0.2.0[build=*]
ipython -> backcall

Package futures conflicts for:
tornado -> futures
bokeh -> futures[version='>=3.0.3']
grpcio -> futures[version='>=2.2.0']
s3transfer -> futures[version='>=2.2.0,<4.0.0']
jupyterlab -> futures
imageio -> futures
tensorboard -> futures[version='>=3.1.1']

Package pickleshare conflicts for:

ipython -> pickleshare
ibm-wsrt-py37main-main -> pickleshare==0.7.5[build=*]

Package protobuf conflicts for:
tensorflow-base -> protobuf[version='>=3.3.0|>=3.4.0|>=3.6.0|>=3.6.1,<4.0a0|>=3.6.1|>=3.8.0|>=3.9.2']
grpcio -> protobuf[version='>=3.5.0']
tensorflow-estimator -> protobuf[version='>=3.6.1']
tensorboard -> protobuf[version='>=3.3.0|>=3.4.0|>=3.6.0|>=3.8.0|>=3.6.1']
ibm-wsrt-py37main-main -> protobuf==3.12.3[build=*]

Package libcblas conflicts for:
scipy -> libcblas[version='>=3.8.0,<4.0a0']
blas -> libcblas[version='3.8.0|3.9.0|3.9.0|3.9.0|3.9.0|3.9.0|3.9.0|3.9.0|3.9.0',build='0_h6e990d7_netlib|1_h6e990d7_netlib|2_blis|2_openblas|3_blis|3_openblas|4_blis|5_openblas|6_blis|6_mkl|7_blis|7_openblas|7_mkl|8_blis|8_h6e990d7_netlib|9_mkl|10_h86c2bf4_netlib|12_openblas|13_openblas|14_blis|14_mkl|15_blis|15_mkl|16_openblas|16_blis|17_openblas|20_mkl|21_mkl|19_mkl|18_mkl|16_mkl|15_openblas|14_openblas|13_mkl|13_blis|12_mkl|12_blis|11_h86c2bf4_netlib|11_mkl|11_openblas|11_blis|10_mkl|10_openblas|10_blis|9_openblas|9_blis|8_mkl|8_openblas|7_h6e990d7_netlib|6_h6e990d7_netlib|6_openblas|5_mkl|5_blis|5_h6e990d7_netlib|4_h6e990d7_netlib|4_mkl|4_openblas|0_openblas|0_blis']
scikit-learn -> libcblas[version='>=3.8.0,<4.0a0']
numpy -> libcblas[version='>=3.8.0,<4.0a0']

Package libgfortran conflicts for:
numpy -> libgfortran[version='>=3.0']
hdf5 -> libgfortran[version='>=3.0']
scipy -> libgfortran[version='>=3.0']

Package backports.functools_lru_cache conflicts for:
matplotlib -> backports.functools_lru_cache
matplotlib-base -> backports.functools_lru_cache
wcwidth -> backports.functools_lru_cache
soupsieve -> backports.functools_lru_cache

Package zstd conflicts for:
ibm-wsrt-py37main-main -> zstd==1.4.4[build=*]
blosc -> zstd[version='>=1.3.7,<1.3.8.0a0|>=1.4.4,<1.5.0a0|>=1.4.5,<1.4.6.0a0']
libtiff -> zstd[version='>=1.3.3,<1.3.4.0a0|>=1.4.0,<1.5.0.0a0|>=1.4.3,<1.5.0.0a0|>=1.4.4,<1.5.0.0a0|>=1.4.5,<1.5.0a0|>=1.4|>=1.4.4,<1.5.0a0|>=1.3.7,<1.3.8.0a0']

Package pycparser conflicts for:
cffi -> pycparser
ibm-wsrt-py37main-main -> pycparser==2.20[build=*]

Package toolz conflicts for:
cytoolz -> toolz[version='>=0.10.0|>=0.8.0']
scikit-image -> toolz[version='>=0.7.3|>=0.7.4']
ibm-wsrt-py37main-main -> toolz==0.10.0[build=*]

Package libpq conflicts for:
qt -> libpq[version='>=12.3,<13.0a0']
psycopg2 -> libpq[version='>=10.3,<11.0a0|>=10.5,<11.0a0|>=10.6,<11.0a0|>=11.2,<12.0a0|>=11.3,<12.0a0|>=11.5,<12.0a0|>=12.1,<13.0a0|>=12.2,<13.0a0|>=12.3,

<13.0a0|>=11.1,<12.0a0|>=9.6.6']
ibm-wsrt-py37main-main -> libpq==12.2[build=*]

Package jupyterlab conflicts for:
arcgis=1.6.0 -> jupyterlab
ibm-wsrt-py37main-main -> jupyterlab==2.2.6[build=*]

Package urllib3 conflicts for:
ibm-wsrt-py37main-main -> urllib3==1.25.9[build=*]
requests -> urllib3[version='>=1.21.1,<1.22|>=1.21.1,<1.23|>=1.21.1,<1.24|>=
1.21.1,<1.25|>=1.21.1,<1.26,!=1.25.0,!=1.25.1']
botocore -> urllib3[version='>=1.20,<1.24|>=1.20,<1.25|>=1.20,<1.26|>=1.25.4,
<1.26|>=1.25.4,<1.27']

Package requests conflicts for:
requests-oauthlib -> requests[version='>=2.0.0']
ibm-wsrt-py37main-main -> requests==2.24.0[build=*]
plotly -> requests
bokeh -> requests[version='>=1.2.3']
nltk -> requests
jupyterlab_server -> requests
folium=0.5.0 -> requests
tensorboard -> requests[version='>=2.21.0,<3']

Package kiwisolver conflicts for:
ibm-wsrt-py37main-main -> kiwisolver==1.2.0[build=*]
matplotlib-base -> kiwisolver[version='>=1.0.1']
matplotlib -> kiwisolver

Package pyqt conflicts for:
ibm-wsrt-py37main-main -> pyqt==5.9.2[build=*]
matplotlib -> pyqt[version='4.11.*|>=5.12.3,<5.13.0a0|>=5.6.0,<5.7.0a0|>=5.9.
2,<5.10.0a0|5.9.*|>=5.6,<6.0a0|5.*|5.6.*']

Package singledispatch conflicts for:
tornado ->singledispatch
nltk -> singledispatch

Package yaml conflicts for:
pyyaml -> yaml[version='>=0.1.7,<0.2.0a0|>=0.2.2,<0.3.0a0|>=0.2.5,<0.3.0a0']
ibm-wsrt-py37main-main -> yaml==0.2.5[build=*]

Package libsodium conflicts for:
ibm-wsrt-py37main-main -> libsodium==1.0.18[build=*]
zeromq -> libsodium[version='>=1.0.16,<1.0.17.0a0|>=1.0.17,<1.0.18.0a0|>=1.0.
18,<1.0.19.0a0']
pyzmq -> libsodium[version='>=1.0.16,<1.0.17.0a0|>=1.0.17,<1.0.18.0a0|>=1.0.1
8,<1.0.19.0a0']

Package _libgcc_mutex conflicts for:
libgcc-ng -> _libgcc_mutex[version='*|0.1',build='conda_forge|main']
ibm-wsrt-py37main-main -> _libgcc_mutex==0.1[build=*]

Package pyshp conflicts for:
ibm-wsrt-py37main-main -> pyshp==2.1.0[build=*]
arcgis=1.6.0 -> pyshp

Package snappy conflicts for:
ibm-wsrt-py37main-main -> snappy==1.1.8[build=*]
blosc -> snappy[version='1.1.6|>=1.1.8,<2.0a0|>=1.1.7,<2.0a0']

Package pexpect conflicts for:
ipython -> pexpect[version='>4.3']
ibm-wsrt-py37main-main -> pexpect==4.8.0[build=*]

Package networkx conflicts for:
ibm-wsrt-py37main-main -> networkx==2.4[build=*]
scikit-image -> networkx[version='>=1.8,<2.0|>=1.8|>=2.0']

Package secretstorage conflicts for:
ibm-wsrt-py37main-main -> secretstorage==3.1.0[build=*]
keyring -> secretstorage[version='>=3|>=3.2']

Package webencodings conflicts for:
tensorboard -> webencodings
bleach -> webencodings
ibm-wsrt-py37main-main -> webencodings==0.5.1[build=*]
html5lib -> webencodings

Package joblib conflicts for:
scikit-learn -> joblib[version='>=0.11']
ibm-wsrt-py37main-main -> joblib==0.16.0[build=*]
nltk -> joblib

Package pyrsistent conflicts for:
jsonschema -> pyrsistent[version='>=0.14.0']
ibm-wsrt-py37main-main -> pyrsistent==0.16.0[build=*]

Package dask-core conflicts for:
ibm-wsrt-py37main-main -> dask-core==2.20.0[build=*]
scikit-image -> dask-core[version='>=0.15|>=0.15.0|>=0.9.0']

Package pywavelets conflicts for:
scikit-image -> pywavelets[version='>=0.4.0']
ibm-wsrt-py37main-main -> pywavelets==1.1.1[build=*]

Package jpeg conflicts for:
libtiff -> jpeg[version='9.*|>=9b,<10a|>=9c,<10a|>=9d,<10a']
ibm-wsrt-py37main-main -> jpeg==9b[build=*]
lcms2 -> jpeg[version='>=9b,<10a|>=9c,<10a|>=9d,<10a']
pillow -> jpeg[version='8.*|9.*|>=9c,<10a|>=9d,<10a|>=9b,<10a']
qt -> jpeg[version='9.*|>=9c,<10a|>=9d,<10a|>=9b,<10a']

Package matplotlib-base conflicts for:
ibm-wsrt-py37main-main -> matplotlib-base==3.2.2[build=*]
scikit-image -> matplotlib-base[version='>=2.0.0']
matplotlib -> matplotlib-base[version='2.1.2|2.1.2|2.1.2|2.2.3|2.2.3|2.2.3|2.
2.4|2.2.4|2.2.4|2.2.4|2.2.4|2.2.4|2.2.4|2.2.4|2.2.4|2.2.4|3.0.1|3.0.2|3.0.2|
3.0.2|3.0.2|3.0.2|3.0.3|3.0.3|3.0.3|3.0.3|3.1.0|3.1.0|3.1.0|3.1.0|3.1.1|3.1.1
|3.1.1|3.1.1|3.1.1|3.1.1|3.1.1|3.1.1|3.1.1|3.1.2|3.1.2|3.1.2|3.1.2|3.1.2|3.1.2|3.1.
3|3.1.3|3.1.3|>=3.2.0,<3.2.1.0a0|>=3.2.1,<3.2.2.0a0|>=3.2.2,<3.2.3.0a0|>=3.3.
0,<3.3.1.0a0|>=3.3.1,<3.3.2.0a0|>=3.3.2,<3.3.3.0a0|>=3.3.3,<3.3.4.0a0|>=2.2.
5,<2.2.6.0a0|3.1.3|3.1.3|3.1.3|3.1.2|3.1.2|3.1.2',build='py37hef1b27d_1|py36h
ef1b27d_1|py37hef1b27d_0|py36hef1b27d_0|py27h250f245_1|py36hfd891ef_0|py37h25

0f245_1|py36h250f245_1|py27h250f245_1|py37hc2fb212_1001|py36h167e16e_1001|py3
7h167e16e_0|py37h5f35d83_1|py37h5f35d83_0|py37hfd891ef_1|py36hfd891ef_1|py36h
fd891ef_0|py36he7580a8_1|py38h250f245_1|py38h250f245_2|py38h250f245_0|py38h25
0f245_1|py38h250f245_0|py37h250f245_0|py36h250f245_0|py37h250f245_1|py36h250f
245_1|py36h250f245_0|py37h250f245_0|py36h250f245_2|py37h250f245_2|py37he7580a
8_1|py37hfd891ef_0|py36h5f35d83_0|py36h5f35d83_1|py36h167e16e_0|py36h167e16e_
1002|py37h167e16e_1002|py37h167e16e_1001|py36h167e16e_1000|py38h250f245_2|py3
6h250f245_2|py37h250f245_2|py27h250f245_2|py27hfd891ef_0|py37hfd891ef_0|py37h
60b886d_1|py36h60b886d_1|py27h60b886d_1|py36h250f245_1|py37h250f245_1|py38hef
1b27d_0|py38hef1b27d_1']
seaborn -> matplotlib-base[version='>=2.1.2']

Package certifi conflicts for:
matplotlib-base -> certifi[version='>=2020.06.20']
setuptools -> certifi[version='>=2016.09|>=2016.9.26']
tornado -> certifi
ibm-wsrt-py37main-main -> certifi==2020.12.5[build=*]
urllib3 -> certifi
requests -> certifi[version='>=2017.4.17']

Package soupsieve conflicts for:
beautifulsoup4 -> soupsieve[version='>=1.2']
ibm-wsrt-py37main-main -> soupsieve==2.0.1[build=*]

Package expat conflicts for:
ibm-wsrt-py37main-main -> expat==2.2.9[build=*]
qt -> expat[version='>=2.2.5,<2.3.0a0|>=2.2.9,<2.3.0a0|>=2.2.6,<3.0a0|>=2.2.
5,<3.0a0']
dbus -> expat[version='>=2.2.10,<3.0a0|>=2.2.5,<2.3.0a0|>=2.2.9,<2.3.0a0|>=2.
2.6,<3.0a0|>=2.2.5,<3.0a0']

Package retrying conflicts for:
plotly -> retrying[version='>=1.3.3']
ibm-wsrt-py37main-main -> retrying==1.3.3[build=*]

Package testpath conflicts for:
nbconvert -> testpath
ibm-wsrt-py37main-main -> testpath==0.4.4[build=*]

Package _py-xgboost-mutex conflicts for:
ibm-wsrt-py37main-main -> _py-xgboost-mutex==2.0=cpu_0
py-xgboost -> _py-xgboost-mutex[version='1.0|2.0',build='gpu_0|cpu_0']

Package gmp conflicts for:
pandoc -> gmp
ibm-wsrt-py37main-main -> gmp==6.1.2[build=*]

Package decorator conflicts for:
traitlets -> decorator
networkx -> decorator[version='>=3.4.0|>=4.3.0|>=4.1.0']
plotly -> decorator[version='>=4.0.6']
ibm-wsrt-py37main-main -> decorator==4.4.2[build=*]
ipython -> decorator

Package pip conflicts for:
python=3.7 -> pip
ibm-wsrt-py37main-main -> pip==20.1.1[build=*]

Package jedi conflicts for:
ipython -> jedi[version='>=0.10|>=0.16']
ibm-wsrt-py37main-main -> jedi==0.17.1[build=*]

Package lzo conflicts for:
ibm-wsrt-py37main-main -> lzo==2.10[build=*]
pytables -> lzo[version='2.*|>=2.10,<3.0a0|2.06']

Package libffi conflicts for:
cffi -> libffi[version='<3.3.0.a0|>=3.2.1,<3.3.0a0|>=3.3,<3.4.0a0|>=3.2.1,<3.3a0']
ibm-wsrt-py37main-main -> libffi==3.3[build=*]
glib -> libffi[version='<3.3.0.a0|>=3.0.0|>=3.2.1,<3.3.0a0|>=3.3,<3.4.0a0|>=3.2.1,<3.3a0']
python=3.7 -> libffi[version='>=3.2.1,<3.3.0a0|>=3.3,<3.4.0a0|>=3.2.1,<3.3a0']
gstreamer -> libffi[version='>=3.2.1,<3.3.0a0|>=3.2.1,<3.3a0']

Package krb5 conflicts for:
ibm-wsrt-py37main-main -> krb5==1.17.1[build=*]
libpq -> krb5[version='>=1.14.2,<1.15.0a0|>=1.16,<1.17.0a0|>=1.16.1,<1.17.0a0|>=1.16.2,<1.17.0a0|>=1.16.3,<1.17.0a0|>=1.16.4,<1.17.0a0|>=1.17.1,<1.18.0a0']

Package libglib conflicts for:
gst-plugins-base -> libglib[version='>=2.64.6,<3.0a0']
dbus -> libglib[version='>=2.64.6,<3.0a0']
glib -> libglib[version='2.64.6|2.66.1|2.66.2|2.66.2|2.66.3',build='h0dae87d_0|hbe7bbb4_0|h1f3bc88_1|hbe7bbb4_0|h0dae87d_1|h0dae87d_0']
gstreamer -> libglib[version='>=2.64.6,<3.0a0']

Package threadpoolctl conflicts for:
scikit-learn -> threadpoolctl
ibm-wsrt-py37main-main -> threadpoolctl==2.1.0[build=*]

Package mistune conflicts for:
nbconvert -> mistune[version='>0.6|>=0.7.4|>=0.8.1']
ibm-wsrt-py37main-main -> mistune==0.8.4[build=*]

Package jupyter_client conflicts for:
ibm-wsrt-py37main-main -> jupyter_client==6.1.3[build=*]
notebook -> jupyter_client[version='>=5.2.0|>=5.3.1|>=5.3.4']
ipykernel -> jupyter_client
nbconvert -> jupyter_client[version='>=4.2']

Package keras-applications conflicts for:
tensorflow-base -> keras-applications[version='>=1.0.5|>=1.0.6|>=1.0.8|>=1.0.8,<2.0a0']
ibm-wsrt-py37main-main -> keras-applications==1.0.8[build=*]

Package aiohttp conflicts for:
ibm-wsrt-py37main-main -> aiohttp==3.6.2[build=*]
google-auth -> aiohttp[version='>=3.6.2,<4.0.0dev']

Package fontconfig conflicts for:
ibm-wsrt-py37main-main -> fontconfig==2.13.0[build=*]

qt -> fontconfig[version='2.12.*|>=2.13.1,<3.0a0|>=2.13.0,<3.0a0|>=2.12.6,<3.0a0|>=2.12.4,<3.0a0']

Package future conflicts for:
ibm-wsrt-py37main-main -> future==0.18.2[build=*]
pytorch -> future
tensorflow-base -> future

Package typing conflicts for:
pytorch -> typing
typing_extensions -> typing[version='>=3.6.2|>=3.7.4']

Package google-pasta conflicts for:
ibm-wsrt-py37main-main -> google-pasta==0.2.0[build=*]
tensorflow-base -> google-pasta[version='>=0.1.6|>=0.1.8|>=0.1.7|>=0.1.7,<1.0a0']

Package brotlipy conflicts for:
urllib3 -> brotlipy[version='>=0.6.0']
ibm-wsrt-py37main-main -> brotlipy==0.7.0[build=*]

Package markdown conflicts for:
ibm-wsrt-py37main-main -> markdown==3.1.1[build=*]
tensorboard -> markdown[version='>=2.6.11|>=2.6.8']
tensorflow-base -> markdown[version='>=2.6.11']

Package pyyaml conflicts for:
ibm-wsrt-py37main-main -> pyyaml==5.3.1[build=*]
dask-core -> pyyaml
bokeh -> pyyaml[version='>=3.10']

Package docutils conflicts for:
botocore -> docutils[version='>=0.10|>=0.10,<0.15|>=0.10,<0.16']
ibm-wsrt-py37main-main -> docutils==0.15.2[build=*]

Package requests-oauthlib conflicts for:
ibm-wsrt-py37main-main -> requests-oauthlib==1.3.0[build=*]
google-auth-oauthlib -> requests-oauthlib[version='>=0.7.0|>=0.7.0,<1dev']

Package lz4-c conflicts for:
zstd -> lz4-c[version='>=1.8.1.2,<1.8.2.0a0|>=1.8.3,<1.8.4.0a0|>=1.9.2,<1.9.3.0a0|>=1.9.2,<1.10.0a0']
blosc -> lz4-c[version='>=1.8.1.2,<1.9.0a0|>=1.9.2,<1.10.0a0']
ibm-wsrt-py37main-main -> lz4-c==1.9.2[build=*]

Package mpmath conflicts for:
sympy -> mpmath[version='>=0.19']
ibm-wsrt-py37main-main -> mpmath==1.1.0[build=*]

Package gast conflicts for:
tensorflow-estimator -> gast[version='>=0.2.0']
ibm-wsrt-py37main-main -> gast==0.2.2[build=*]
tensorflow-base -> gast[version='>=0.2.0|>=0.3.3,<0.3.4.0a0|>=0.2.2,<0.2.3.0a0']

Package markupsafe conflicts for:
ibm-wsrt-py37main-main -> markupsafe==1.1.1[build=*]

jinja2 -> markupsafe[version='>=0.23']

Package mock conflicts for:
ibm-wsrt-py37main-main -> mock==4.0.2[build=*]
tensorflow-base -> mock[version='>=2.0.0|>=2.0.0,<3.0a0']
pytables -> mock
tensorflow-estimator -> mock[version='>=2.0.0']

Package keras conflicts for:
keras-applications -> keras[version='>=2.1.6']
keras-preprocessing -> keras[version='>=2.1.6']

Package cytoolz conflicts for:
scikit-image -> cytoolz[version='>=0.7.3']
ibm-wsrt-py37main-main -> cytoolz==0.10.1[build=*]

Package blosc conflicts for:
pytables -> blosc[version='>=1.14.3,<2.0a0|>=1.14.4,<2.0a0|>=1.15.0,<2.0a0|>=
1.16.3,<2.0a0|>=1.17.0,<2.0a0|>=1.18.1,<2.0a0|>=1.20.1,<2.0a0']
ibm-wsrt-py37main-main -> blosc==1.19.0[build=*]

Package pandocfilters conflicts for:
nbconvert -> pandocfilters[version='>=1.4.1']
ibm-wsrt-py37main-main -> pandocfilters==1.4.2[build=*]

Package libuuid conflicts for:
ibm-wsrt-py37main-main -> libuuid==1.0.3[build=*]
fontconfig -> libuuid[version='>=1.0.3,<2.0a0|>=2.32.1,<3.0a0']

Package json5 conflicts for:
jupyterlab_server -> json5
ibm-wsrt-py37main-main -> json5==0.9.5[build=*]

Package yarl conflicts for:
ibm-wsrt-py37main-main -> yarl==1.5.1[build=*]
aiohttp -> yarl[version='>=0.10.0,<0.11|>=1.0,<1.6.0|>=1.0,<2.0|>=0.11']

Package google-auth conflicts for:
tensorboard -> google-auth[version='>=1.6.3,<2']
ibm-wsrt-py37main-main -> google-auth==1.22.0[build=*]
google-auth-oauthlib -> google-auth

Package html5lib conflicts for:
bleach -> html5lib[version='>=0.999,!=0.9999,!=0.99999,<0.99999999|>=0.999999
99|>=0.99999999pre,!=1.0b1,!=1.0b2,!=1.0b3,!=1.0b4,!=1.0b5,!=1.0b6,!=1.0b7,!=
1.0b8']
tensorboard -> html5lib[version='0.9999999|>=0.9999999,<0.10000000.0a0']
ibm-wsrt-py37main-main -> html5lib==1.1.0[build=*]

Package intel-openmp conflicts for:
ibm-wsrt-py37main-main -> intel-openmp==2020.1[build=*]
mkl -> intel-openmp

Package _openmp_mutex conflicts for:
mkl -> _openmp_mutex[version='*|>=4.5',build=*_llvm]
libgcc-ng -> _openmp_mutex[version='>=4.5']
blas -> _openmp_mutex[version='*|>=4.5',build=*_llvm]

Package jmespath conflicts for:
botocore -> jmespath[version='>=0.7.1,<1.0.0']
ibm-wsrt-py37main-main -> jmespath==0.9.4[build=*]
boto3 -> jmespath[version='>=0.7.1,<1.0.0']

Package zeromq conflicts for:
ibm-wsrt-py37main-main -> zeromq==4.3.2[build=*]
pyzmq -> zeromq[version='4.1.*|4.2.1|>=4.2.3,<4.3|>=4.2.5,<4.3|>=4.2.5,<4.3.0
a0|>=4.3.1,<4.4.0a0|>=4.3.2,<4.4.0a0|>=4.3.3,<4.4.0a0|>=4.2.5,<4.2.6.0a0|4.2.
*']

Package gst-plugins-base conflicts for:
ibm-wsrt-py37main-main -> gst-plugins-base==1.14.0[build=*]
qt -> gst-plugins-base[version='>=1.12.2,<1.13.0a0|>=1.12.4,<1.13.0a0|>=1.12.
5,<1.13.0a0|>=1.14.4,<1.15.0a0|>=1.14.0,<1.15.0a0']

Package mkl_random conflicts for:
numpy -> mkl_random[version='>=1.0.2,<2.0a0']
ibm-wsrt-py37main-main -> mkl_random==1.1.1[build=*]

Package s3transfer conflicts for:
ibm-wsrt-py37main-main -> s3transfer==0.3.3[build=*]
boto3 -> s3transfer[version='>=0.1.0,<0.2.0|>=0.1.10,<0.2.0|>=0.2.0,<0.3.0|>=
0.3.0,<0.4.0']

Package libxgboost conflicts for:
ibm-wsrt-py37main-main -> libxgboost==0.90[build=*]
py-xgboost -> libxgboost[version='0.7|0.71|0.72|0.72|0.72|0.80|0.80|0.80|0.80
|0.80|0.80|0.81|0.81|0.82|0.82|0.90|0.90|0.90|0.90|1.0.2|1.0.2|1.1.1|1.2.0|1.
3.0|0.90|0.90|0.90|0.90|0.90|0.90',build='hf484d3e_0|h83be7fe_0|he6710b0_0|h6
edc907_0|he6710b0_0|h4d71fd4_0|h6edc907_0|hfc679d8_1|hfc679d8_0|he1b5a44_0|he
1b5a44_1|he1b5a44_1|he1b5a44_1|he1b5a44_0|h9c3ff4c_1|h9c3ff4c_0|he1b5a44_0|he
1b5a44_0|he1b5a44_4|he1b5a44_3|he1b5a44_2|hf484d3e_1000|hf484d3e_1001|he6710b
0_1|hf484d3e_1|h688424c_0|h51060c3_0|h6cbba54_0|h87a4715_0|hf484d3e_0|hf484d3
e_0']

Package pyopenssl conflicts for:
urllib3 -> pyopenssl[version='>=0.14']
ibm-wsrt-py37main-main -> pyopenssl==19.1.0[build=*]

Package defusedxml conflicts for:
ibm-wsrt-py37main-main -> defusedxml==0.6.0[build=*]
nbconvert -> defusedxml

Package numexpr conflicts for:
pytables -> numexpr
ibm-wsrt-py37main-main -> numexpr==2.7.1[build=*]

Package async-timeout conflicts for:
aiohttp -> async-timeout[version='<4.0,>=3.0|>=3.0,<4.0|>=1.2,<3.0|>=1.2.0']
ibm-wsrt-py37main-main -> async-timeout==3.0.1[build=*]
Note that strict channel priority may have removed packages required for sati
sfiability.

Collecting geocoder
  Downloading geocoder-1.38.1-py2.py3-none-any.whl (98 kB)

██████████████████████████████████ | 98 kB 8.1 MB/s   eta 0:00:01

Requirement already satisfied: future in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from geocoder) (0.18.2)
Requirement already satisfied: click in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from geocoder) (7.1.2)
Requirement already satisfied: requests in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from geocoder) (2.24.0)
Requirement already satisfied: six in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from geocoder) (1.15.0)
Collecting ratelim
   Downloading ratelim-0.1.6-py2.py3-none-any.whl (4.0 kB)
Requirement already satisfied: certifi>=2017.4.17 in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from requests->geocoder) (2020.12.5)
Requirement already satisfied: idna<3,>=2.5 in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from requests->geocoder) (2.9)
Requirement already satisfied: urllib3!=1.25.0,!=1.25.1,<1.26,>=1.21.1 in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from requests->geocoder) (1.25.9)
Requirement already satisfied: chardet<4,>=3.0.2 in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from requests->geocoder) (3.0.4)
Requirement already satisfied: decorator in /opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages (from ratelim->geocoder) (4.4.2)
Installing collected packages: ratelim, geocoder
Successfully installed geocoder-1.38.1 ratelim-0.1.6

In [ ]:

1.1 Read the zomato resturant data from csv file

In [2]:
```
df = pd.read_csv('https://raw.githubusercontent.com/haanjiankur/Capstone-Proje
ct---The-Battle-of-Neighborhoods/master/zomato.csv',encoding='ISO-8859-1')
df.head()
```

Out[2]:

	Restaurant ID	Restaurant Name	Country Code	City	Address	Locality	Locality Verbose	Longitu
0	6317637	Le Petit Souffle	162	Makati City	Third Floor, Century City Mall, Kalayaan Avenu...	Century City Mall, Poblacion, Makati City	Century City Mall, Poblacion, Makati City, Mak...	121.0275
1	6304287	Izakaya Kikufuji	162	Makati City	Little Tokyo, 2277 Chino Roces Avenue, Legaspi...	Little Tokyo, Legaspi Village, Makati City	Little Tokyo, Legaspi Village, Makati City, Ma...	121.0141
2	6300002	Heat - Edsa Shangri-La	162	Mandaluyong City	Edsa Shangri-La, 1 Garden Way, Ortigas, Mandal...	Edsa Shangri-La, Ortigas, Mandaluyong City	Edsa Shangri-La, Ortigas, Mandaluyong City, Ma...	121.0568
3	6318506	Ooma	162	Mandaluyong City	Third Floor, Mega Fashion Hall, SM Megamall, O...	SM Megamall, Ortigas, Mandaluyong City	SM Megamall, Ortigas, Mandaluyong City, Mandal...	121.0564
4	6314302	Sambo Kojin	162	Mandaluyong City	Third Floor, Mega Atrium, SM Megamall, Ortigas...	SM Megamall, Ortigas, Mandaluyong City	SM Megamall, Ortigas, Mandaluyong City, Mandal...	121.0575

5 rows × 21 columns

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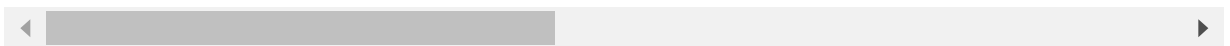
1.2 Data Cleaning

Remove the unwanted columns and rows from dataset

In [3]:
```python
df_india = df[df['Country Code'] == 1]
df_NDLS = df_india[df_india['City'] == 'New Delhi']
df_NDLS.reset_index(drop=True, inplace=True)
df_NDLS.head()
```

Out[3]:

	Restaurant ID	Restaurant Name	Country Code	City	Address	Locality	Locality Verbose	Longitude	Latitude
0	18287358	Food Cloud	1	New Delhi	Aaya Nagar, New Delhi	Aaya Nagar	Aaya Nagar, New Delhi	0.000000	0.000000
1	18216944	Burger.in	1	New Delhi	84, Near Honda Showroom, Adchini, New Delhi	Adchini	Adchini, New Delhi	77.196923	28.535382
2	313333	Days of the Raj	1	New Delhi	81/3, 1st Floor, Qutub Residency, Adchini, New...	Adchini	Adchini, New Delhi	77.197475	28.535493
3	18384127	Dilli Ka Dhaba	1	New Delhi	66 A, Ground Floor, Sri Aurobindo Marg, Adchin...	Adchini	Adchini, New Delhi	77.198033	28.537547
4	582	Govardhan	1	New Delhi	84, Adjacent Hero Motor Bike Showroom, Main Me...	Adchini	Adchini, New Delhi	77.196924	28.535523

5 rows × 21 columns

In [4]:
```python
df_Res= df_NDLS[df_NDLS.Longitude !=0.000000][['Restaurant Name','Locality','Longitude','Latitude','Cuisines','Aggregate rating','Rating text','Votes']]
```

In [5]:
```python
df_Res = df_Res[df_Res['Aggregate rating'] !=0.0]
```

In [6]: `df_Res.head()`

Out[6]:

	Restaurant Name	Locality	Longitude	Latitude	Cuisines	Aggregate rating	Rating text	Votes
1	Burger.in	Adchini	77.196923	28.535382	Fast Food	3.2	Average	46
2	Days of the Raj	Adchini	77.197475	28.535493	North Indian, Seafood, Continental	3.4	Average	45
3	Dilli Ka Dhaba	Adchini	77.198033	28.537547	South Indian, North Indian	2.6	Average	11
4	Govardhan	Adchini	77.196924	28.535523	South Indian, North Indian, Chinese	3.4	Average	238
5	Mezbaan Grills	Adchini	77.198122	28.538134	Mughlai	3.1	Average	8

In [7]:
```python
New_Delhi_Rest = folium.Map(location=[28.52, 77.25], zoom_start=12)

X = df_Res['Latitude']
Y = df_Res['Longitude']
Z = np.stack((X, Y), axis=1)

kmeans = KMeans(n_clusters=5, random_state=0).fit(Z)

clusters = kmeans.labels_
colors = ['red', 'green', 'blue', 'yellow','orange']
df_Res ['Cluster'] = clusters

for latitude, longitude, Locality, cluster in zip(df_Res['Latitude'], df_Res[
'Longitude'], df_Res['Locality'], df_Res['Cluster']):
    label = folium.Popup(Locality, parse_html=True)
    folium.CircleMarker(
        [latitude, longitude],
        radius=5,
        popup=label,
        color='black',
        fill=True,
        fill_color=colors[cluster],
        fill_opacity=0.7).add_to(New_Delhi_Rest)

New_Delhi_Rest
```

Out[7]: Make this Notebook Trusted to load map: File -> Trust Notebook

In [8]: `df_Res.head()`

Out[8]:

	Restaurant Name	Locality	Longitude	Latitude	Cuisines	Aggregate rating	Rating text	Votes	Cluster
1	Burger.in	Adchini	77.196923	28.535382	Fast Food	3.2	Average	46	1
2	Days of the Raj	Adchini	77.197475	28.535493	North Indian, Seafood, Continental	3.4	Average	45	1
3	Dilli Ka Dhaba	Adchini	77.198033	28.537547	South Indian, North Indian	2.6	Average	11	1
4	Govardhan	Adchini	77.196924	28.535523	South Indian, North Indian, Chinese	3.4	Average	238	1
4	Mezbaan Grills	Adchini	77.198122	28.538134	Mughlai	3.1	Average	8	1

1.3 What places are have best restaurant in New Delhi?

In [9]:
```python
import matplotlib.pyplot as plt
plt.figure(figsize=(9,5), dpi = 100)
# title
plt.title('The highest rated resturant in top 10 locality of New Delhi')
#On x-axis

#giving a bar plot
df_Res.groupby('Locality')['Aggregate rating'].mean().nlargest(10).plot(kind=
'bar')

plt.xlabel('Resturant Locality in New Delhi')
#On y-axis
plt.ylabel('Aggregate Rating')
#displays the plot
plt.show()
```

The highest rated resturant in top 10 locality of New Delhi
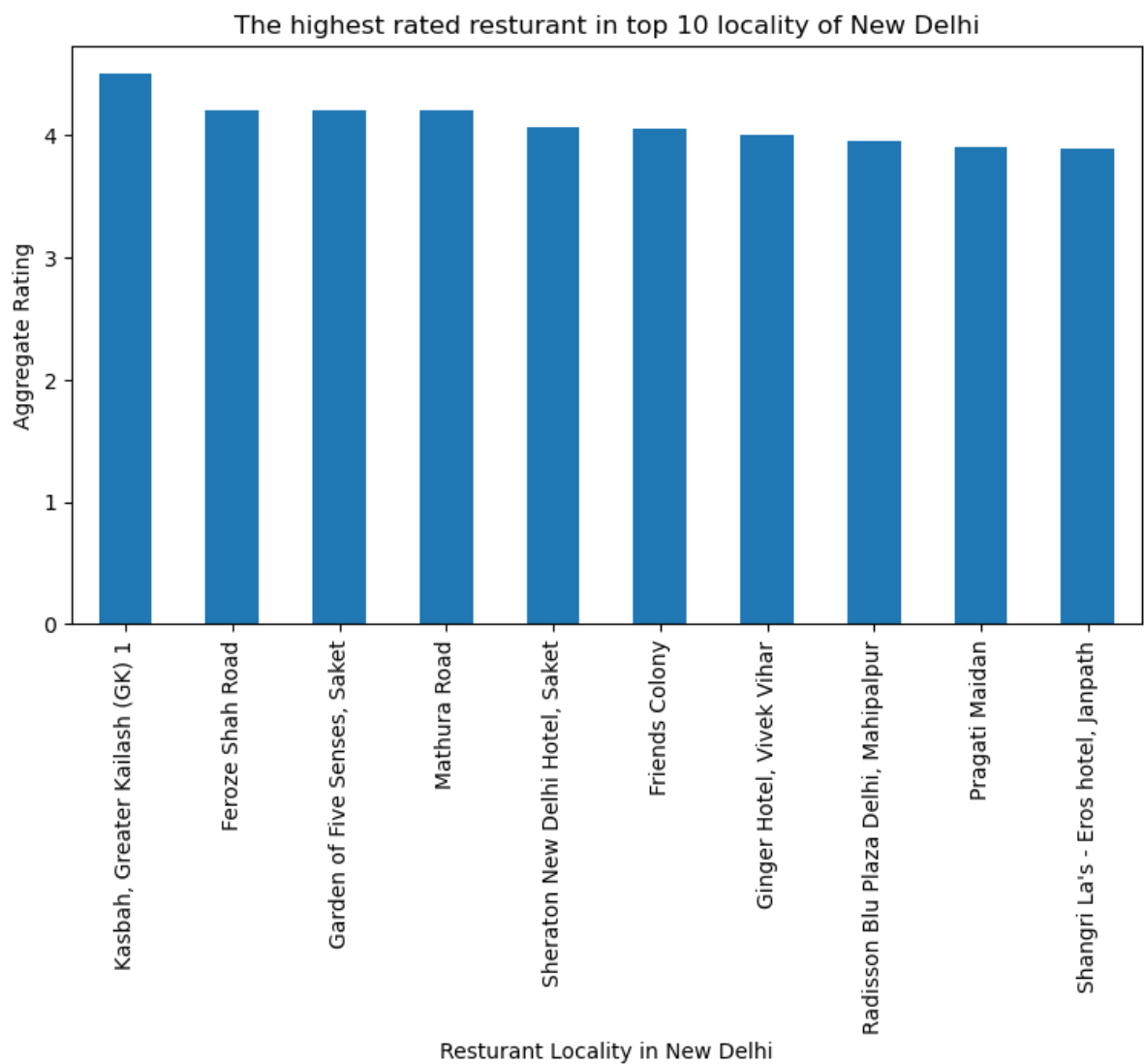
1.4 what places are have worst restaurants in New Delhi?

```python
import matplotlib.pyplot as plt
plt.figure(figsize=(9,5), dpi = 100)
# title
plt.title('The Worst rated resturant in top 10 locality of New Delhi')
#On x-axis

#giving a bar plot

df_Res.groupby('Locality')['Aggregate rating'].mean().nsmallest(10).plot(kind=
'bar')

plt.xlabel('Resturant Locality in New Delhi')
#On y-axis
plt.ylabel('Aggregate Rating')

#displays the plot
plt.show()
```


The Worst rated resturant in top 10 locality of New Delhi
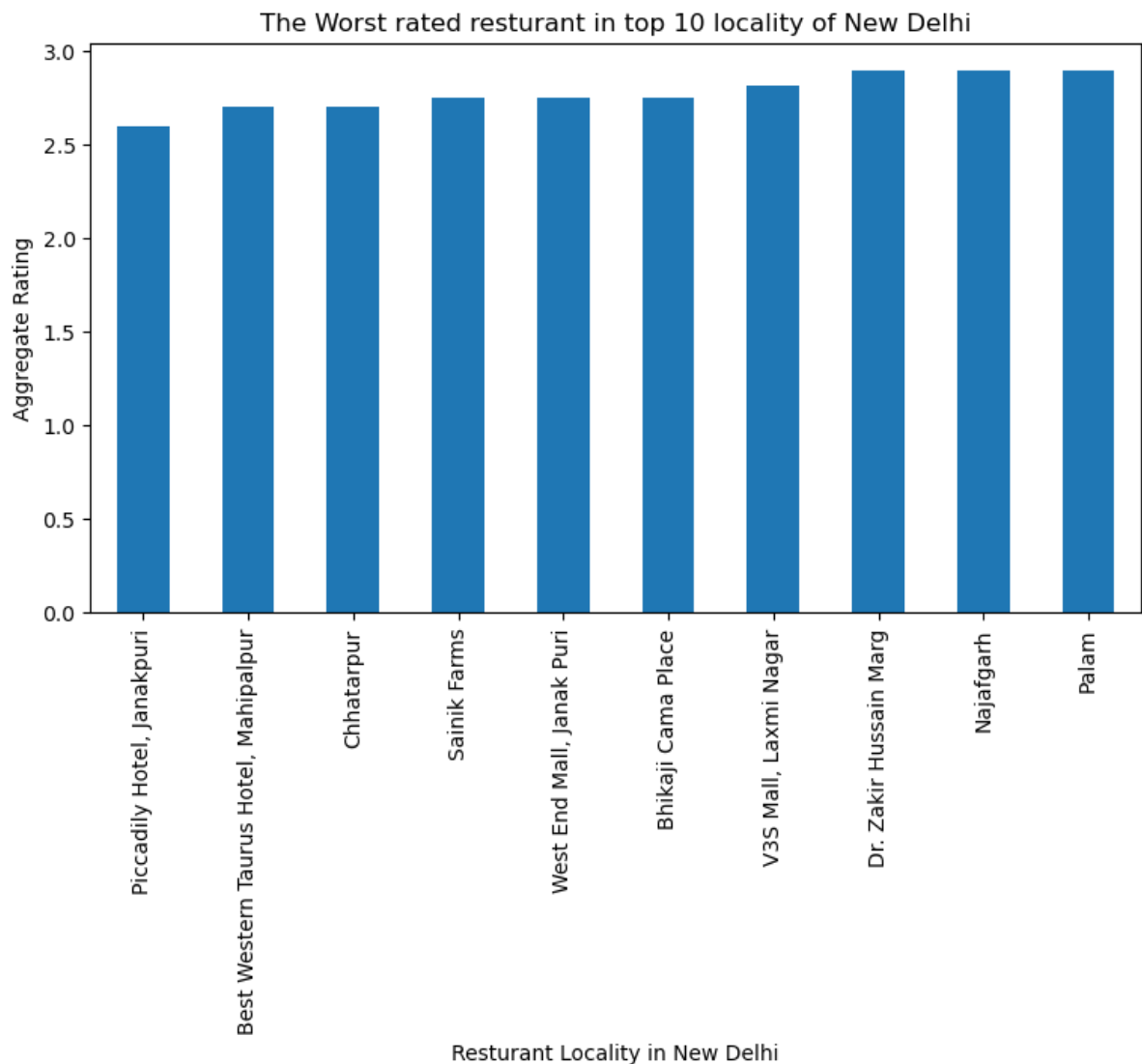
1.5 Which place are suitable for edible person in New Delhi city?

```python
import matplotlib.pyplot as plt
plt.figure(figsize=(9,5), dpi = 100)
# title
plt.title('The highest number of Restaurant available in Locality of New Delhi')
#On x-axis

#giving a bar plot
df_Res.groupby('Locality')['Restaurant Name'].count().nlargest(10).plot(kind='bar')

plt.xlabel('Resturant Locality in New Delhi')
#On y-axis
plt.ylabel('Number of Restaurant')

#displays the plot
plt.show()
```


The highest number of Restaurant available in Locality of New Delhi
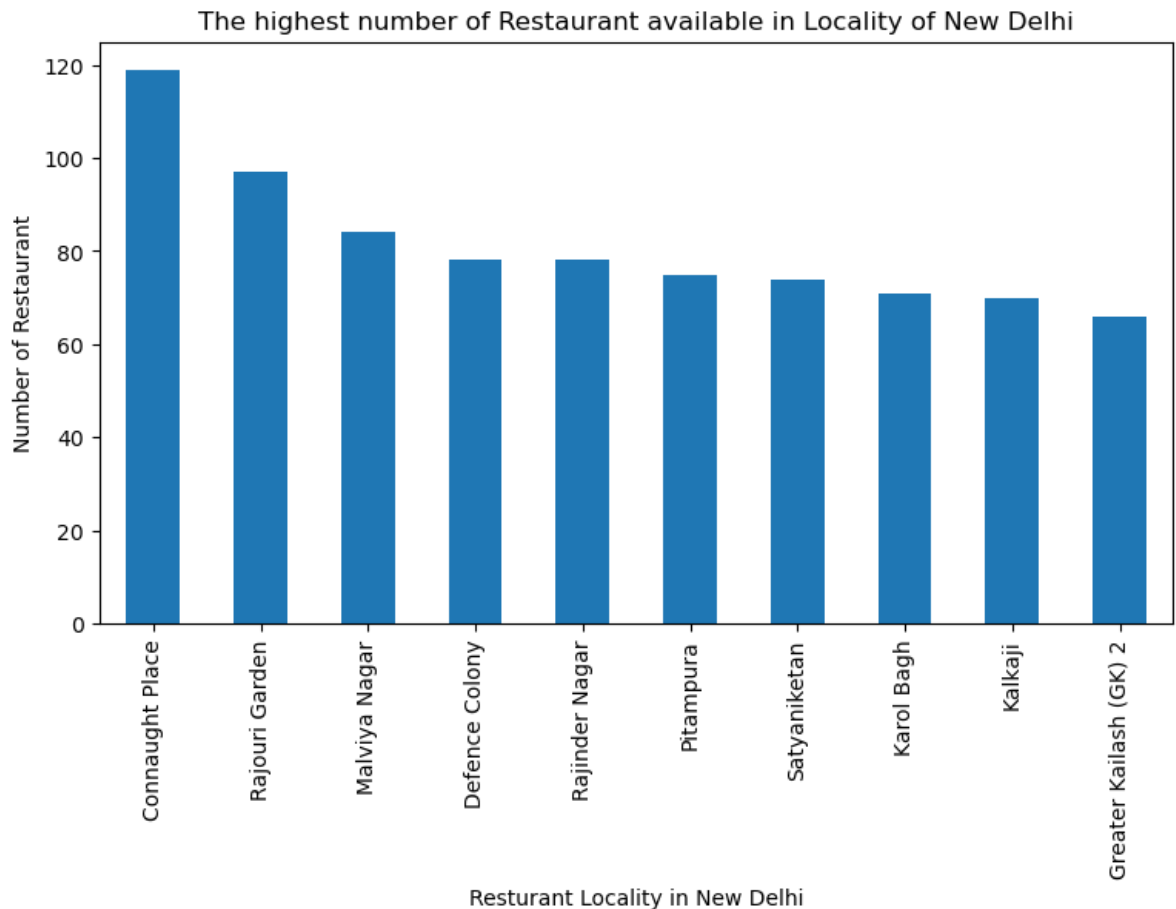
1.6 Which place are not suitable for edible person in New Delhi city?

In [12]:
```python
import matplotlib.pyplot as plt
plt.figure(figsize=(9,5), dpi = 100)
# title
plt.title('The lowest number of Restaurant available in Locality of New Delhi'
)
#On x-axis

#giving a bar plot
df_Res.groupby('Locality')['Restaurant Name'].count().nsmallest(10).plot(kind=
'bar')

plt.xlabel('Resturant Locality in New Delhi')
#On y-axis
plt.ylabel('Number of Restaurant')

#displays the plot
plt.show()
```

The lowest number of Restaurant available in Locality of New Delhi
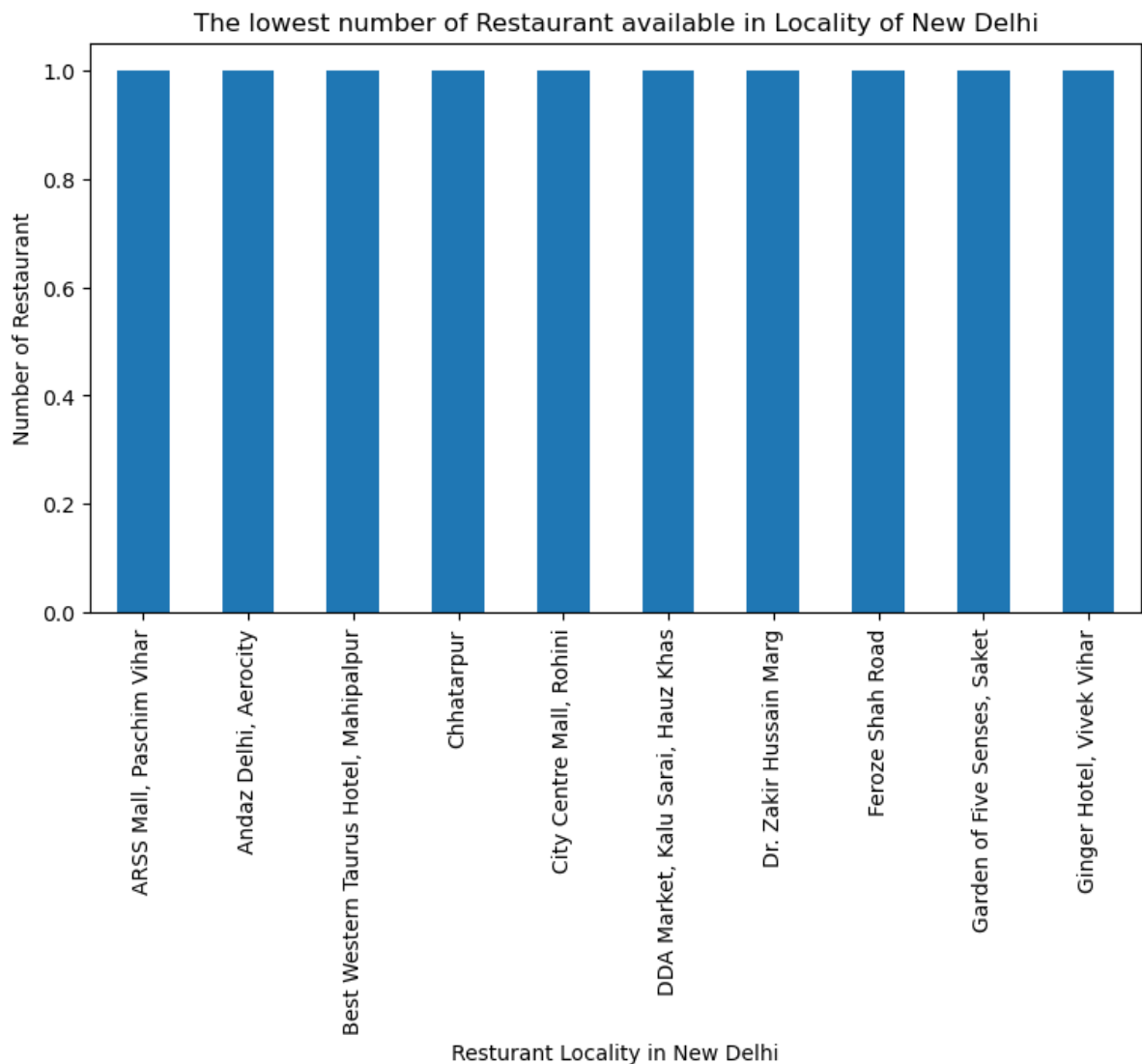
1.7 What are the best places for chinese restaurant in New Delhi city

In [13]:
```python
import matplotlib.pyplot as plt
plt.figure(figsize=(9,5), dpi = 100)
# title
plt.title('The best Locality for chinese restaurant in New Delhi city')
#On x-axis

#giving a bar plot
df_Res[df_Res['Cuisines'].str.startswith('Chinese')].groupby('Locality')['Restaurant Name'].count().nlargest(5).plot(kind='bar')

plt.xlabel('Resturant Locality in New Delhi')
#On y-axis
plt.ylabel('Number of Chinese Restaurant')

#displays the plot
plt.show()
```
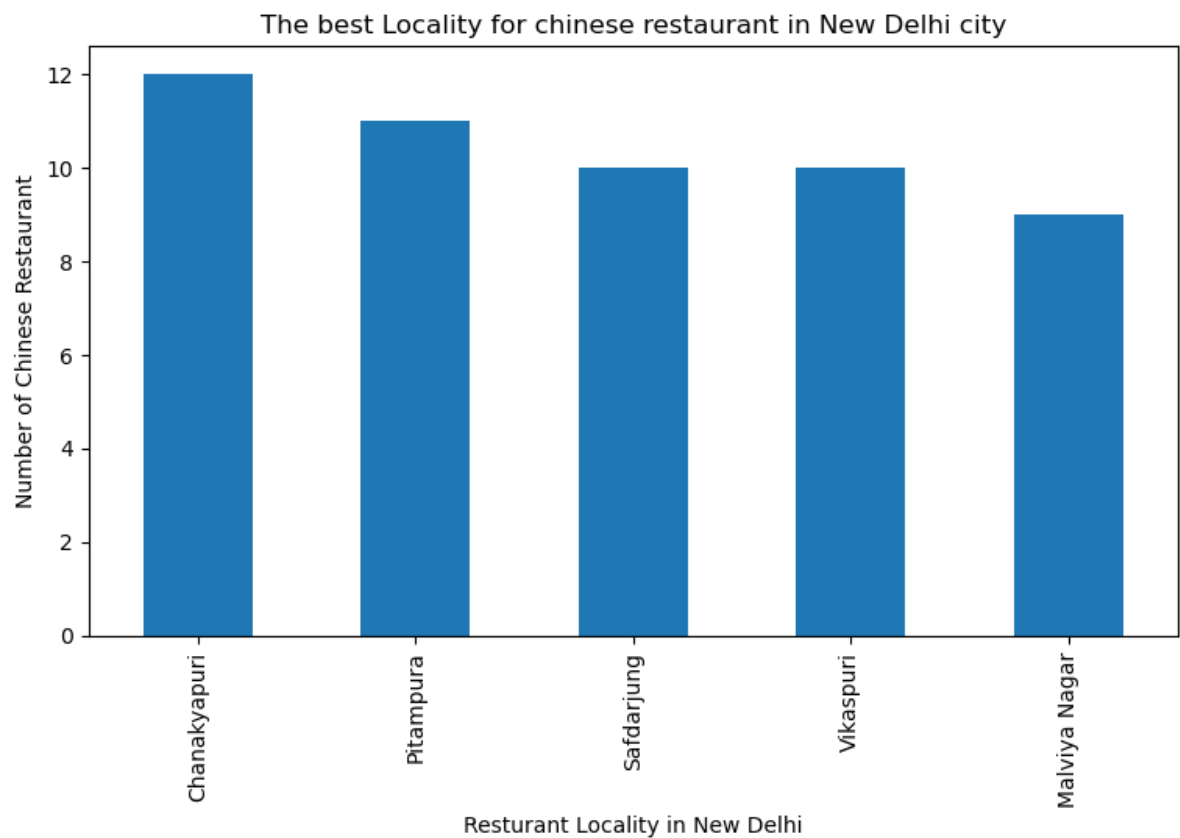
1.8 Which places are the best chinese resturants in New Delhi?

In [14]:
```python
import matplotlib.pyplot as plt
plt.figure(figsize=(9,5), dpi = 100)
# title
plt.title('The best places for Chinese restaurant in New Delhi city')
#On x-axis

#giving a bar plot
df_Res[df_Res['Cuisines'].str.startswith('Chinese')].groupby('Locality')['Aggr
egate rating'].mean().nlargest(5).plot(kind='bar')

plt.xlabel('Resturant Locality in New Delhi')
#On y-axis
plt.ylabel('Rating of resturants')

#displays the plot
plt.show()
```


The best places for Chinese restaurant in New Delhi city
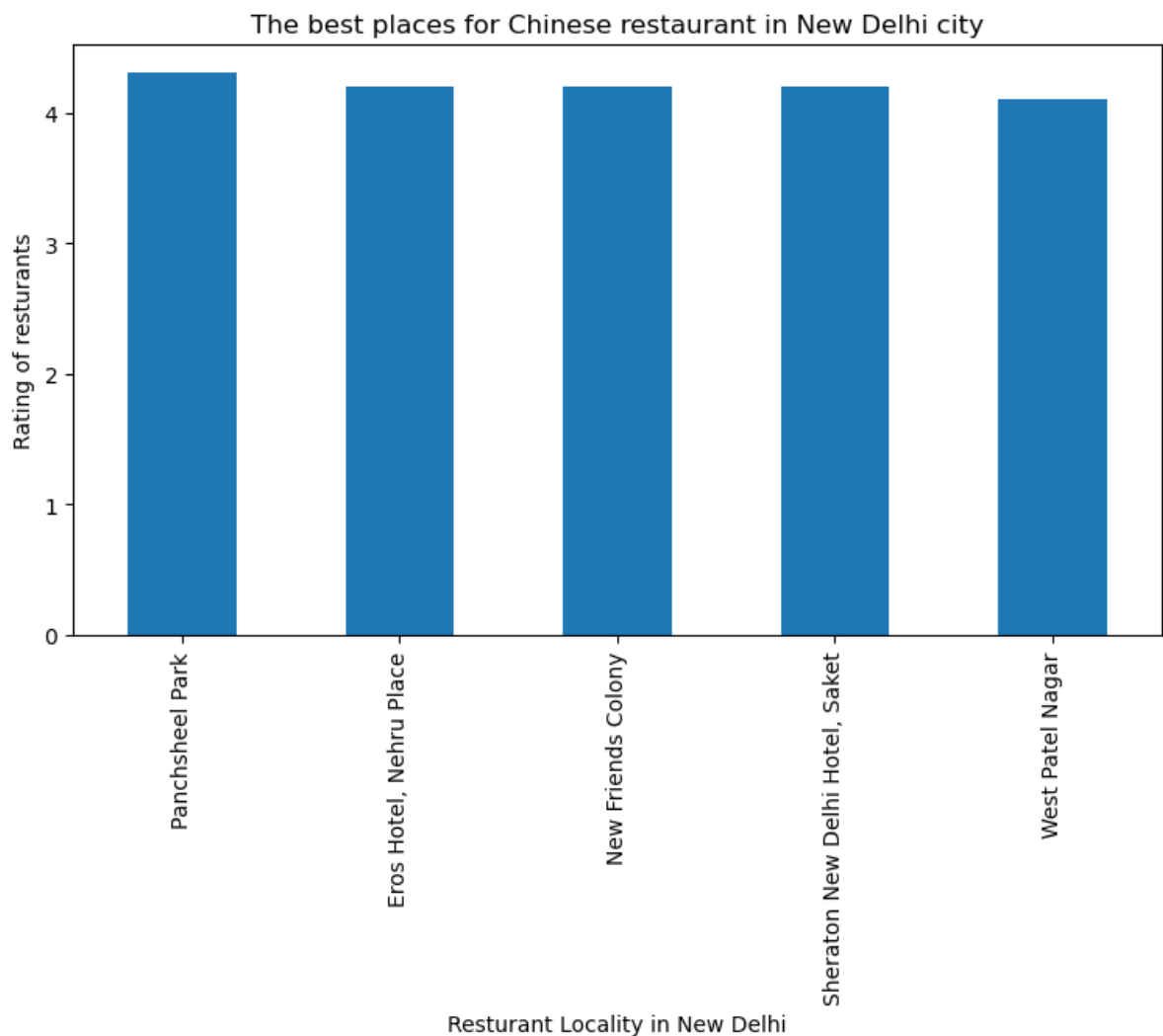
1.8.1 Data transformation

In [15]:
```python
df_Res_Loc = df_Res.groupby('Locality').count()['Restaurant Name'].to_frame()
df_Res_rating= df_Res.groupby('Locality')['Aggregate rating'].mean().to_frame()
d_Cuisines = df_Res.groupby(['Locality'])['Cuisines'].agg(', '.join).reset_index()
d_R = df_Res.groupby(['Locality'])['Rating text'].unique().agg(', '.join).reset_index()
d_V = df_Res.groupby(['Locality'])['Votes'].sum().to_frame()
d_Lat = df_Res.groupby('Locality').mean()['Latitude'].to_frame()
d_Lng = df_Res.groupby('Locality').mean()['Longitude'].to_frame()
df_final = pd.merge(d_Lat,d_Lng,on='Locality').merge(df_Res_Loc, on='Locality').merge(d_Cuisines, on='Locality').merge(df_Res_rating,on ='Locality').merge(d_R, on ='Locality').merge(d_V, on ='Locality')
```

In [16]:
```python
df_final = df_final[df_final['Aggregate rating'] != 0.000000]
df_final.columns =['Locality','Lat','Lng', 'No_of_Restaurant','Cusines', 'Agg_Rating','Comments' ,'No_of_Votes']
df_final.head()
```

Out[16]:

	Locality	Lat	Lng	No_of_Restaurant	Cusines	Agg_Rating	Comments
0	ARSS Mall, Paschim Vihar	28.668945	77.101544	1	North Indian, South Indian, Chinese, Mithai, F...	3.100000	Average
1	Adchini	28.537063	77.197808	13	Fast Food, North Indian, Seafood, Continental,...	3.292308	Average, Good, Poor, Very Good
2	Aditya Mega Mall, Karkardooma	28.656131	77.301266	4	Finger Food, North Indian, Mughlai, Pizza, Fas...	3.275000	Average, Good
3	Aerocity	28.553077	77.104270	2	Fast Food, Italian, Pizza, North Indian, Conti...	3.200000	Average
4	Aggarwal City Mall, Pitampura	28.690020	77.134650	3	North Indian, Chinese, Street Food, Mithai, No...	3.033333	Average

In [17]: `df_final.shape`

Out[17]: (240, 8)

1.9 Define Foursquare Credentials and Version

In [18]:
```python
## Define Foursquare Credentials and Version
CLIENT_ID = 'TNJAH3HFDMZPZRDJXKMGRE0GD3DW2HAXKSNTHF3VYCONHSAJ' # Foursquare ID
CLIENT_SECRET = 'I1ISKOVZ1JCBL0XKHDGCMU0IF1NB5GG4TWCG4HEUTVV3FVZM' # Foursquare Secret
VERSION = '20180605' # Foursquare API version

print('Your credentails:')
print('CLIENT_ID: ' + CLIENT_ID)
print('CLIENT_SECRET:' + CLIENT_SECRET)
```

Your credentails:
CLIENT_ID: TNJAH3HFDMZPZRDJXKHGRE0GD3DW2HAXKSNTHF3VYCONHSSJ
CLIENT_SECRET:I1ISKOVZ1JCBLIXKHDGCMU0IF1NB5GG4TWCG4HEUTVV3FVVM

1.10   create a function to repeat the same process to all the Locality in New Delhi

In [19]:

```python
## create a function to repeat the same process to all the Locality in New Delhi

def getNearbyVenues(names, latitudes, longitudes, radius=500,LIMIT = 100):

    venues_list=[]
    for name, lat, lng in zip(names, latitudes, longitudes):
        print(name)

        # create the API request URL
        url = 'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={}&v={}&ll={},{}&radius={}&limit={}'.format(
            CLIENT_ID,
            CLIENT_SECRET,
            VERSION,
            lat,
            lng,
            radius,
            LIMIT)

        # make the GET request
        results = requests.get(url).json()["response"]['groups'][0]['items']

        # return only relevant information for each nearby venue
        venues_list.append([(
            name,
            lat,
            lng,
            v['venue']['name'],
            v['venue']['location']['lat'],
            v['venue']['location']['lng'],
            v['venue']['categories'][0]['name']) for v in results])

    nearby_venues = pd.DataFrame([item for venue_list in venues_list for item in venue_list])
    nearby_venues.columns = ['Locality',
                  'Locality Latitude',
                  'Locality Longitude',
                  'Venue',
                  'Venue Latitude',
                  'Venue Longitude',
                  'Venue Category']

    return(nearby_venues)
```

1.11 find the venues in all New Delhi Locality

In [20]:

```python
# find the venues in all New Delhi Locality
new_Delhi_venues = getNearbyVenues(names=df_final['Locality'],
                                   latitudes=df_final['Lat'],
                                   longitudes=df_final['Lng']
                                   )
```

ARSS Mall, Paschim Vihar
Adchini
Aditya Mega Mall, Karkardooma
Aerocity
Aggarwal City Mall, Pitampura
Aggarwal City Plaza, Rohini
Alaknanda
Ambience Mall, Vasant Kunj
Anand Lok
Anand Vihar
Andaz Delhi, Aerocity
Ansal Plaza Mall, Khel Gaon Marg
Asaf Ali Road
Ashok Vihar Phase 1
Ashok Vihar Phase 2
Ashok Vihar Phase 3
Barakhamba Road
Basant Lok Market, Vasant Vihar
Bellagio, Ashok Vihar Phase 2
Best Western Taurus Hotel, Mahipalpur
Bhikaji Cama Place
Chanakyapuri
Chander Nagar
Chandni Chowk
Chawri Bazar
Chhatarpur
Chittaranjan Park
City Centre Mall, Rohini
City Square Mall, Rajouri Garden
Civil Lines
Community Centre, New Friends Colony
Connaught Place
Crescent Square Mall, Rohini
Cross River Mall, Karkardooma
Crowne Plaza Hotel, Rohini
Crowne Plaza, Mayur Vihar Phase 1
D Mall, Netaji Subhash Place
DDA Market, Kalu Sarai, Hauz Khas
DLF City Centre Mall, Shalimar Bagh
DLF Emporio Mall, Vasant Kunj
DLF Place Mall, Saket
DLF Promenade Mall, Vasant Kunj
DLF South Square, Sarojini Nagar
Daryaganj
Defence Colony
Delhi University-GTB Nagar
Dilli Haat, INA
Dilshad Garden
District Centre, Janakpuri
Dr. Zakir Hussain Marg
East Patel Nagar
East of Kailash
Epicuria Food Mall, Nehru Place
Eros Hotel, Nehru Place
Essex Farms
Feroze Shah Road
Friends Colony

GTB Nagar
Garden of Five Senses, Saket
Geeta Colony
Ginger Hotel, Vivek Vihar
Gourmet Hub, Pashim Vihar
Greater Kailash (GK) 1
Greater Kailash (GK) 2
Greater Kailash (GK) 3
Green Park
Gujranwala Town
Hauz Khas
Hauz Khas Village
Holiday Inn, Aerocity
Holiday Inn, Mayur Vihar
Hotel Broadway, Daryaganj
Hotel City Park, Pitampura
Hotel Regent Grand, Karol Bagh
Hotel The Royal Plaza, Janpath
Hyatt Regency, Bhikaji Cama Place
INA
IP Extension
ITC Maurya, Chanakyapuri
ITO
India Gate
JMD Kohinoor Mall, Greater Kailash
JNU
JW Marriott New Delhi
Jail Road
Jama Masjid
Janakpuri
Jangpura
Janpath
Jasola
Jaypee Siddharth, Rajendra Place
Jaypee Vasant Continental, Vasant Vihar
Jor Bagh
Kailash Colony
Kalkaji
Kamla Nagar
Kapashera
Karampura
Karkardooma
Karol Bagh
Kasbah, Greater Kailash (GK) 1
Kashmiri Gate
Khan Market
Kirti Nagar
Krishna Nagar
Lado Sarai
Lajpat Nagar 1
Lajpat Nagar 2
Lajpat Nagar 4
Lawrence Road
Laxmi Nagar
Le Meridien, Janpath
Lemon Tree Premier, Aerocity
Living Style Mall, Jasola

Lodhi Colony
Lodhi Road
MG Road
MGF Metropolitan Mall, Saket
MGM Club, Daryaganj
Mahipalpur
Maidens Hotel, Civil Lines
Majnu ka Tila
Malviya Nagar
Mandi House
Mathura Road
Mayapuri Phase 2
Mayur Vihar Phase 1
Mayur Vihar Phase 2
Mayur Vihar Phase 3
Mehrauli
Metro Walk Mall, Rohini
Model Town 1
Model Town 2
Model Town 3
Moments Mall, Kirti Nagar
Moti Bagh
Moti Nagar
Mukherjee Nagar
Munirka
Najafgarh
Naraina
Nehru Place
Netaji Subhash Place
New Friends Colony
Nizamuddin
Okhla Phase 1
Okhla Phase 2
PVR Anupam Complex
Pacific Mall, Tagore Garden
Paharganj
Palam
Palate of Delhi, Chanakyapuri
Panchsheel Park
Pandara Road Market
Pandav Nagar
Paschim Vihar
Patparganj
Piccadily Hotel, Janakpuri
Pitampura
Pragati Maidan
Prashant Vihar
Preet Vihar
Premier Inn, Shalimar Bagh
Pride Plaza Hotel, Aerocity
Punjabi Bagh
Qutab Institutional Area
R K Puram
Race Course
Radisson Blu Plaza Delhi, Mahipalpur
Radisson Blu, Paschim Vihar
Rajendra Place

Rajinder Nagar
Rajouri Garden
Rohini
Roseate House, Aerocity
SDA
Safdarjung
Sainik Farms
Saket
Sangam Courtyard, RK Puram
Sarita Vihar
Sarojini Nagar
Satyaniketan
Sector 15, Dwarka
Select Citywalk Mall, Saket
Shahdara
Shahpur Jat
Shakarpur
Shalimar Bagh
Shangri La's - Eros hotel, Janpath
Shanti Niketan Marg
Sheikh Sarai
Sheraton New Delhi Hotel, Saket
South Extension 1
South Extension 2
Southern Park Mall, Saket
Spark Mall, Kamla Nagar
Star City Mall, Mayur Vihar Phase 1
Subhash Nagar
Sunder Nagar
T3 Domestic Arrival, Aerocity
TDI Mall, Rajouri Garden
Tagore Garden
Taj Vivanta, Khan Market
The Ashok, Chanakyapuri
The Claridges, Aurangzeb Road
The Grand New Delhi, Vasant Kunj
The Imperial, Janpath
The India Mall, New Friends Colony
The Lalit New Delhi, Barakhamba Road
The Leela Ambience Convention Hotel
The Leela Palace, Chanakyapuri
The Lodhi, Lodhi Road
The Park, Connaught Place
The Suryaa New Delhi, New Friends Colony
The Taj Mahal Hotel, Mansingh Road
The Taj Palace Hotel, Chanakyapuri
The Uppal, Aerocity
The Village Restaurant Complex, Khel Gaon Marg
Tilak Nagar
Tughlakabad Institutional Area
Uday Park
Unity One Mall, Janakpuri
Uttam Nagar
V3S Mall, Laxmi Nagar
Vasant Kunj
Vasant Square Mall, Vasant Kunj
Vasant Vihar

Vasundhara Enclave
Vijay Nagar
Vikas Marg
Vikaspuri
Vivek Vihar
Wazirpur
West End Mall, Janak Puri
West Gate Mall, Rajouri Garden
West Patel Nagar
Worldmark 1, Aerocity
Yusuf Sarai
ibis New Delhi, Aerocity

In [21]: `new_Delhi_venues.head()`

Out[21]:

	Locality	Locality Latitude	Locality Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	ARSS Mall, Paschim Vihar	28.668945	77.101544	Subway	28.669999	77.102546	Sandwich Place
1	ARSS Mall, Paschim Vihar	28.668945	77.101544	Pizza Hut	28.670321	77.103853	Pizza Place
2	ARSS Mall, Paschim Vihar	28.668945	77.101544	Café Coffee Day	28.670009	77.102480	Coffee Shop
3	ARSS Mall, Paschim Vihar	28.668945	77.101544	Baljeet's Amritsari Koolcha	28.665768	77.100481	Indian Restaurant
4	ARSS Mall, Paschim Vihar	28.668945	77.101544	Little Chef	28.670000	77.101459	Chinese Restaurant

In [22]:

```
new_Delhi_venues.groupby('Locality').count()
```

Out[22]:

Locality	Locality Latitude	Locality Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
ARSS Mall, Paschim Vihar	9	9	9	9	9	9
Adchini	5	5	5	5	5	5
Aditya Mega Mall, Karkardooma	10	10	10	10	10	10
Aerocity	7	7	7	7	7	7
Aggarwal City Mall, Pitampura	5	5	5	5	5	5
...	...	...	...	...	...	...
West Gate Mall, Rajouri Garden	15	15	15	15	15	15
West Patel Nagar	5	5	5	5	5	5
Worldmark 1, Aerocity	28	28	28	28	28	28
Yusuf Sarai	13	13	13	13	13	13
ibis New Delhi, Aerocity	26	26	26	26	26	26

238 rows × 6 columns

In [23]:

```
print('There are {} uniques categories.'.format(len(new_Delhi_venues['Venue Category'].unique())))
```

There are 215 uniques categories.

In [24]:
```python
## Analyze Each Locality

# one hot encoding
new_Delhi_onehot = pd.get_dummies(new_Delhi_venues[['Venue Category']], prefix="", prefix_sep="")

# add Locality column back to dataframe
new_Delhi_onehot['Locality'] = new_Delhi_venues['Locality']

# move Locality column to the first column
column_list = new_Delhi_onehot.columns.tolist()
column_number = int(column_list.index('Locality'))
column_list = [column_list[column_number]] + column_list[:column_number] + column_list[column_number+1:]
new_Delhi_onehot = new_Delhi_onehot[column_list]

new_Delhi_onehot.head()
```

Out[24]:

	Locality	ATM	Accessories Store	Afghan Restaurant	African Restaurant	Airport	Airport Lounge	Airport Service	Airport Terminal	Am Res
0	ARSS Mall, Paschim Vihar	0	0	0	0	0	0	0	0	
1	ARSS Mall, Paschim Vihar	0	0	0	0	0	0	0	0	
2	ARSS Mall, Paschim Vihar	0	0	0	0	0	0	0	0	
3	ARSS Mall, Paschim Vihar	0	0	0	0	0	0	0	0	
4	ARSS Mall, Paschim Vihar	0	0	0	0	0	0	0	0	

5 rows × 216 columns

In [25]:
```
New_Delhi_grouped = new_Delhi_onehot.groupby('Locality').mean().reset_index()
New_Delhi_grouped
```

Out[25]:

	Locality	ATM	Accessories Store	Afghan Restaurant	African Restaurant	Airport	Airport Lounge	Airport Service	Te
0	ARSS Mall, Paschim Vihar	0.111111	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0
1	Adchini	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0
2	Aditya Mega Mall, Karkardooma	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0
3	Aerocity	0.000000	0.000000	0.0	0.0	0.0	0.142857	0.0	0.1
4	Aggarwal City Mall, Pitampura	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0
...	...	...	...	...	...	...	...	...	
233	West Gate Mall, Rajouri Garden	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0
234	West Patel Nagar	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0
235	Worldmark 1, Aerocity	0.000000	0.035714	0.0	0.0	0.0	0.000000	0.0	0.0
236	Yusuf Sarai	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0
237	ibis New Delhi, Aerocity	0.000000	0.000000	0.0	0.0	0.0	0.000000	0.0	0.0

238 rows × 216 columns

In [26]:
```
New_Delhi_grouped.shape
```

Out[26]:   (238, 216)

In [27]:

```python
## print each Locality along with the top 5 most common venues

num_top_venues = 5

for hood in New_Delhi_grouped['Locality']:
    print("----"+hood+"---- ")
    temp = New_Delhi_grouped[New_Delhi_grouped['Locality'] == hood].T.reset_index()
    temp.columns = ['venue','freq']
    temp = temp.iloc[1:]
    temp['freq'] = temp['freq'].astype(float)
    temp = temp.round({'freq': 2})
    print(temp.sort_values('freq', ascending=False).reset_index(drop=True).head(num_top_venues))
    print('\n')
```

----ARSS Mall, Paschim Vihar----

	venue	freq
0	Indian Restaurant	0.22
1	ATM	0.11
2	Market	0.11
3	Coffee Shop	0.11
4	Chinese Restaurant	0.11

----Adchini----

	venue	freq
0	Café	0.4
1	Indian Restaurant	0.2
2	Pub	0.2
3	Parsi Restaurant	0.2
4	ATM	0.0

----Aditya Mega Mall, Karkardooma----

	venue	freq
0	Pizza Place	0.2
1	Multiplex	0.2
2	Shopping Mall	0.2
3	Indian Restaurant	0.2
4	Hotel	0.1

----Aerocity----

	venue	freq
0	Hotel	0.29
1	Fast Food Restaurant	0.14
2	Airport Lounge	0.14
3	Coffee Shop	0.14
4	Airport Terminal	0.14

----Aggarwal City Mall, Pitampura----

	venue	freq
0	Department Store	0.2
1	Pizza Place	0.2
2	Indian Restaurant	0.2
3	Chinese Restaurant	0.2
4	Business Service	0.2

----Aggarwal City Plaza, Rohini----

	venue	freq
0	Pizza Place	0.17
1	Multiplex	0.17
2	Gym / Fitness Center	0.17
3	Fast Food Restaurant	0.17
4	Bus Station	0.17

----Alaknanda----

	venue	freq
0	Steakhouse	0.2

	venue	freq
1	Coffee Shop	0.2
2	New American Restaurant	0.2
3	Market	0.2
4	Food & Drink Shop	0.2

----Ambience Mall, Vasant Kunj----

	venue	freq
0	Coffee Shop	0.09
1	Italian Restaurant	0.06
2	Fast Food Restaurant	0.06
3	Asian Restaurant	0.06
4	Clothing Store	0.06

----Anand Lok----

	venue	freq
0	Stadium	0.18
1	Café	0.18
2	Dessert Shop	0.09
3	Coffee Shop	0.09
4	Music Venue	0.09

----Anand Vihar----

	venue	freq
0	Café	0.33
1	ATM	0.17
2	Pharmacy	0.17
3	Burger Joint	0.17
4	Burrito Place	0.17

----Andaz Delhi, Aerocity----

	venue	freq
0	Hotel	0.38
1	Coffee Shop	0.08
2	Indian Restaurant	0.08
3	Punjabi Restaurant	0.04
4	Gastropub	0.04

----Ansal Plaza Mall, Khel Gaon Marg----

	venue	freq
0	Department Store	0.25
1	Snack Place	0.25
2	Performing Arts Venue	0.25
3	Fast Food Restaurant	0.25
4	North Indian Restaurant	0.00

----Asaf Ali Road----

	venue	freq
0	Hostel	0.33
1	Indian Restaurant	0.17
2	Theme Park	0.17
3	Hotel	0.17

	venue	freq
4	Movie Theater	0.17

----Ashok Vihar Phase 1----

	venue	freq
0	Pizza Place	0.12
1	Indian Restaurant	0.12
2	Bank	0.12
3	BBQ Joint	0.12
4	Snack Place	0.12

----Ashok Vihar Phase 2----

	venue	freq
0	Snack Place	0.14
1	Pizza Place	0.14
2	South Indian Restaurant	0.14
3	Sandwich Place	0.14
4	Indian Restaurant	0.14

----Ashok Vihar Phase 3----

	venue	freq
0	Pizza Place	0.25
1	South Indian Restaurant	0.25
2	Garden	0.25
3	Indian Restaurant	0.25
4	Nightlife Spot	0.00

----Barakhamba Road----

	venue	freq
0	Indian Restaurant	0.25
1	Theater	0.12
2	Café	0.12
3	Bakery	0.12
4	Hotel	0.12

----Basant Lok Market, Vasant Vihar----

	venue	freq
0	Café	0.15
1	Pizza Place	0.07
2	Fast Food Restaurant	0.07
3	Chinese Restaurant	0.07
4	Restaurant	0.07

----Bellagio, Ashok Vihar Phase 2----

	venue	freq
0	Snack Place	0.14
1	Pizza Place	0.14
2	South Indian Restaurant	0.14
3	Sandwich Place	0.14
4	Indian Restaurant	0.14

----Best Western Taurus Hotel, Mahipalpur----

	venue	freq
0	Hotel	0.33
1	Bed & Breakfast	0.11
2	Italian Restaurant	0.11
3	Accessories Store	0.11
4	Shoe Store	0.11

----Bhikaji Cama Place----

	venue	freq
0	Lounge	0.18
1	Breakfast Spot	0.09
2	Café	0.09
3	Chinese Restaurant	0.09
4	Italian Restaurant	0.09

----Chanakyapuri----

	venue	freq
0	African Restaurant	0.25
1	Park	0.25
2	Trail	0.25
3	Café	0.25
4	ATM	0.00

----Chander Nagar----

	venue	freq
0	Pizza Place	1.0
1	Moving Target	0.0
2	Multicuisine Indian Restaurant	0.0
3	Multiplex	0.0
4	Museum	0.0

----Chandni Chowk----

	venue	freq
0	Indian Restaurant	0.28
1	Snack Place	0.17
2	Market	0.11
3	Dessert Shop	0.11
4	Historic Site	0.06

----Chawri Bazar----

	venue	freq
0	Light Rail Station	0.17
1	Snack Place	0.17
2	Hardware Store	0.17
3	Fast Food Restaurant	0.17
4	Indian Restaurant	0.17

----Chhatarpur----

	venue	freq
0	Japanese Restaurant	0.17

1	Donut Shop	0.17
2	Luggage Store	0.17
3	Indian Restaurant	0.17
4	Hotel	0.17

----Chittaranjan Park----

	venue	freq
0	Fast Food Restaurant	0.33
1	Market	0.33
2	Bowling Alley	0.17
3	Café	0.17
4	ATM	0.00

----City Centre Mall, Rohini----

	venue	freq
0	Department Store	0.25
1	Shopping Mall	0.12
2	Indian Restaurant	0.12
3	Light Rail Station	0.12
4	Gym	0.12

----City Square Mall, Rajouri Garden----

	venue	freq
0	Fast Food Restaurant	0.18
1	Café	0.18
2	Indian Restaurant	0.14
3	Multiplex	0.05
4	Hotel	0.05

----Civil Lines----

	venue	freq
0	Chinese Restaurant	0.2
1	Light Rail Station	0.2
2	Burger Joint	0.2
3	Coffee Shop	0.2
4	Smoke Shop	0.2

----Community Centre, New Friends Colony----

	venue	freq
0	Café	0.16
1	Pizza Place	0.05
2	Lounge	0.05
3	Coffee Shop	0.05
4	Middle Eastern Restaurant	0.05

----Connaught Place----

	venue	freq
0	Indian Restaurant	0.17
1	Café	0.11
2	Bar	0.08
3	Chinese Restaurant	0.08

	venue	freq
4	Coffee Shop	0.05

----Crescent Square Mall, Rohini----

	venue	freq
0	Pharmacy	0.33
1	Clothing Store	0.33
2	Food Court	0.33
3	ATM	0.00
4	North Indian Restaurant	0.00

----Cross River Mall, Karkardooma----

	venue	freq
0	Pizza Place	0.4
1	Indian Restaurant	0.4
2	Hotel	0.2
3	Northeast Indian Restaurant	0.0
4	Multicuisine Indian Restaurant	0.0

----Crowne Plaza Hotel, Rohini----

	venue	freq
0	Clothing Store	0.14
1	Shopping Mall	0.14
2	Theme Park	0.14
3	Asian Restaurant	0.14
4	Hotel	0.14

----Crowne Plaza, Mayur Vihar Phase 1----

	venue	freq
0	Hotel	0.38
1	Pizza Place	0.08
2	Indian Restaurant	0.08
3	Restaurant	0.08
4	Asian Restaurant	0.08

----D Mall, Netaji Subhash Place----

	venue	freq
0	Coffee Shop	0.16
1	Indian Restaurant	0.16
2	Fast Food Restaurant	0.11
3	Shopping Mall	0.11
4	Snack Place	0.05

----DDA Market, Kalu Sarai, Hauz Khas----

	venue	freq
0	Metro Station	0.2
1	Event Space	0.2
2	Coffee Shop	0.2
3	Nightclub	0.2
4	Chinese Restaurant	0.2

----DLF City Centre Mall, Shalimar Bagh----

	venue	freq
0	Multiplex	0.2
1	Shopping Mall	0.2
2	Convenience Store	0.2
3	Vegetarian / Vegan Restaurant	0.2
4	Gym / Fitness Center	0.2

----DLF Emporio Mall, Vasant Kunj----

	venue	freq
0	Coffee Shop	0.09
1	Italian Restaurant	0.06
2	Fast Food Restaurant	0.06
3	Asian Restaurant	0.06
4	Clothing Store	0.06

----DLF Place Mall, Saket----

	venue	freq
0	Indian Restaurant	0.11
1	Lounge	0.07
2	Bar	0.07
3	Clothing Store	0.07
4	Café	0.07

----DLF Promenade Mall, Vasant Kunj----

	venue	freq
0	Coffee Shop	0.09
1	Italian Restaurant	0.06
2	Fast Food Restaurant	0.06
3	Asian Restaurant	0.06
4	Clothing Store	0.06

----DLF South Square, Sarojini Nagar----

	venue	freq
0	Indian Restaurant	0.23
1	Women's Store	0.15
2	Fast Food Restaurant	0.15
3	Shopping Mall	0.08
4	Market	0.08

----Daryaganj----

	venue	freq
0	Indian Restaurant	0.29
1	Hostel	0.14
2	Hotel	0.14
3	Restaurant	0.14
4	Pizza Place	0.07

----Defence Colony----

	venue	freq
0	Indian Restaurant	0.17

	venue	freq
1	Italian Restaurant	0.17
2	Bakery	0.11
3	Bar	0.06
4	Food Truck	0.06

----Delhi University-GTB Nagar----

	venue	freq
0	Café	0.25
1	Restaurant	0.17
2	Pizza Place	0.08
3	Light Rail Station	0.08
4	Coffee Shop	0.08

----Dilli Haat, INA----

	venue	freq
0	Restaurant	0.2
1	Northeast Indian Restaurant	0.2
2	Indian Restaurant	0.2
3	Train Station	0.2
4	Market	0.2

----Dilshad Garden----

	venue	freq
0	Flower Shop	0.25
1	Indian Restaurant	0.25
2	Health & Beauty Service	0.25
3	Market	0.25
4	ATM	0.00

----District Centre, Janakpuri----

	venue	freq
0	Chinese Restaurant	0.20
1	Sandwich Place	0.13
2	Indian Restaurant	0.13
3	Restaurant	0.07
4	Fast Food Restaurant	0.07

----Dr. Zakir Hussain Marg----

	venue	freq
0	Indian Restaurant	0.25
1	Golf Course	0.17
2	Italian Restaurant	0.17
3	Convenience Store	0.08
4	Café	0.08

----East Patel Nagar----

	venue	freq
0	Pizza Place	0.20
1	Donut Shop	0.07
2	Convenience Store	0.07
3	Bar	0.07

4   Bed & Breakfast   0.07

----East of Kailash----

	venue	freq
0	Hot Dog Joint	0.12
1	Fast Food Restaurant	0.12
2	Temple	0.12
3	Department Store	0.12
4	Indie Movie Theater	0.12

----Epicuria Food Mall, Nehru Place----

	venue	freq
0	Fast Food Restaurant	0.07
1	Lounge	0.07
2	Electronics Store	0.07
3	Coffee Shop	0.07
4	Indian Restaurant	0.07

----Eros Hotel, Nehru Place----

	venue	freq
0	Fast Food Restaurant	0.11
1	Electronics Store	0.07
2	Lounge	0.07
3	Coffee Shop	0.07
4	Nightclub	0.04

----Essex Farms----

	venue	freq
0	Coffee Shop	0.25
1	Event Space	0.25
2	Nightclub	0.25
3	Metro Station	0.25
4	ATM	0.00

----Feroze Shah Road----

	venue	freq
0	Indian Restaurant	1.0
1	ATM	0.0
2	Northeast Indian Restaurant	0.0
3	Multicuisine Indian Restaurant	0.0
4	Multiplex	0.0

----Friends Colony----

	venue	freq
0	Hotel	0.33
1	Gym	0.17
2	Sculpture Garden	0.17
3	Neighborhood	0.17
4	Café	0.17

----GTB Nagar----

	venue	freq
0	Pizza Place	0.33
1	Food Truck	0.33
2	Bike Rental / Bike Share	0.33
3	Pet Store	0.00
4	Performing Arts Venue	0.00

----Garden of Five Senses, Saket----

	venue	freq
0	Italian Restaurant	0.17
1	Garden	0.17
2	Pub	0.17
3	Coffee Shop	0.17
4	Asian Restaurant	0.17

----Geeta Colony----

	venue	freq
0	Burger Joint	1.0
1	ATM	0.0
2	North Indian Restaurant	0.0
3	Multicuisine Indian Restaurant	0.0
4	Multiplex	0.0

----Ginger Hotel, Vivek Vihar----

	venue	freq
0	Hotel	0.33
1	BBQ Joint	0.17
2	Indian Restaurant	0.17
3	Café	0.17
4	Asian Restaurant	0.17

----Gourmet Hub, Pashim Vihar----

	venue	freq
0	Pizza Place	0.2
1	Indian Restaurant	0.2
2	Ice Cream Shop	0.2
3	Bakery	0.2
4	Food & Drink Shop	0.2

----Greater Kailash (GK) 1----

	venue	freq
0	Market	0.10
1	Café	0.10
2	Indian Restaurant	0.10
3	Plaza	0.05
4	Ice Cream Shop	0.05

----Greater Kailash (GK) 2----

	venue	freq
0	Restaurant	0.09

	venue	freq
1	Indian Restaurant	0.09
2	Pizza Place	0.06
3	Café	0.06
4	Asian Restaurant	0.06

----Greater Kailash (GK) 3----

	venue	freq
0	Restaurant	0.13
1	Café	0.13
2	Bakery	0.13
3	Ice Cream Shop	0.07
4	Asian Restaurant	0.07

----Green Park----

	venue	freq
0	Coffee Shop	0.15
1	Indian Restaurant	0.15
2	Donut Shop	0.08
3	Pizza Place	0.08
4	Korean Restaurant	0.04

----Gujranwala Town----

	venue	freq
0	Snack Place	0.25
1	Shopping Mall	0.25
2	Indian Restaurant	0.25
3	Bakery	0.25
4	Nightlife Spot	0.00

----Hauz Khas----

	venue	freq
0	Dessert Shop	0.12
1	Coffee Shop	0.12
2	Bistro	0.08
3	Tea Room	0.08
4	Karaoke Bar	0.04

----Hauz Khas Village----

	venue	freq
0	Indian Restaurant	0.12
1	Café	0.12
2	Bar	0.08
3	Restaurant	0.08
4	Italian Restaurant	0.08

----Holiday Inn, Aerocity----

	venue	freq
0	Hotel	0.32
1	Indian Restaurant	0.07
2	Bed & Breakfast	0.07
3	Coffee Shop	0.07

```
4         Hotel  Bar   0.07
```

----Holiday Inn, Mayur Vihar----

	venue	freq
0	Hotel	0.29
1	Restaurant	0.12
2	Pizza Place	0.06
3	Bakery	0.06
4	Department Store	0.06

----Hotel Broadway, Daryaganj----

	venue	freq
0	Indian Restaurant	0.22
1	Hostel	0.22
2	Pizza Place	0.11
3	Soccer Stadium	0.11
4	Road	0.11

----Hotel City Park, Pitampura----

	venue	freq
0	Garden	0.2
1	Coffee Shop	0.2
2	Park	0.2
3	Bakery	0.2
4	Hotel	0.2

----Hotel Regent Grand, Karol Bagh----

	venue	freq
0	Pizza Place	0.21
1	Donut Shop	0.07
2	Gym / Fitness Center	0.07
3	Bed & Breakfast	0.07
4	Hotel	0.07

----Hotel The Royal Plaza, Janpath----

	venue	freq
0	Hotel	0.19
1	Indian Restaurant	0.16
2	Spa	0.09
3	Italian Restaurant	0.06
4	Restaurant	0.06

----Hyatt Regency, Bhikaji Cama Place----

	venue	freq
0	Lounge	0.18
1	Breakfast Spot	0.09
2	Café	0.09
3	Chinese Restaurant	0.09
4	Italian Restaurant	0.09

----INA----

	venue	freq
0	Northeast Indian Restaurant	0.25
1	Market	0.25
2	Indian Restaurant	0.25
3	Train Station	0.25
4	Multicuisine Indian Restaurant	0.00

----IP Extension----

	venue	freq
0	Indian Restaurant	0.2
1	Dessert Shop	0.1
2	Market	0.1
3	Pizza Place	0.1
4	Shopping Mall	0.1

----ITC Maurya, Chanakyapuri----

	venue	freq
0	Hotel	0.12
1	Indian Restaurant	0.12
2	Café	0.09
3	Chinese Restaurant	0.06
4	Diner	0.03

----ITO----

	venue	freq
0	Plaza	0.12
1	Udupi Restaurant	0.12
2	Clothing Store	0.12
3	Historic Site	0.12
4	Art Museum	0.12

----India Gate----

	venue	freq
0	Government Building	0.25
1	Music Venue	0.25
2	National Park	0.25
3	Rest Area	0.25
4	ATM	0.00

----JMD Kohinoor Mall, Greater Kailash----

	venue	freq
0	Restaurant	0.16
1	Ice Cream Shop	0.11
2	Pizza Place	0.11
3	Café	0.11
4	Karnataka Restaurant	0.05

----JNU----

	venue	freq
0	Shopping Mall	0.25

	venue	freq
1	Indian Restaurant	0.25
2	Clothing Store	0.25
3	Café	0.25
4	ATM	0.00

----JW Marriott New Delhi----

	venue	freq
0	Hotel	0.35
1	Indian Restaurant	0.08
2	Coffee Shop	0.08
3	Hotel Bar	0.08
4	Dumpling Restaurant	0.04

----Jail Road----

	venue	freq
0	Indian Restaurant	0.33
1	Pizza Place	0.17
2	Indian Sweet Shop	0.17
3	Ice Cream Shop	0.17
4	Fried Chicken Joint	0.17

----Jama Masjid----

	venue	freq
0	Indian Restaurant	0.38
1	Mosque	0.12
2	Frozen Yogurt Shop	0.12
3	Flea Market	0.12
4	Snack Place	0.12

----Janakpuri----

	venue	freq
0	Café	0.4
1	Gym	0.2
2	Park	0.2
3	Bakery	0.2
4	ATM	0.0

----Jangpura----

	venue	freq
0	Sandwich Place	0.22
1	Fast Food Restaurant	0.22
2	Chinese Restaurant	0.11
3	Snack Place	0.11
4	Indie Movie Theater	0.11

----Janpath----

	venue	freq
0	Indian Restaurant	0.19
1	Italian Restaurant	0.08
2	Coffee Shop	0.08
3	Fast Food Restaurant	0.06

```
4              Lounge  0.06
```

----Jasola----

```
                venue  freq
0      Soccer Field    0.17
1              Café    0.17
2    Soccer Stadium    0.17
3    Breakfast Spot    0.17
4    Sandwich Place    0.17
```

----Jaypee Siddharth, Rajendra Place----

```
                  venue  freq
0            Pizza Place  0.19
1   Fast Food Restaurant  0.12
2             Donut Shop  0.06
3      Convenience Store  0.06
4     Gym / Fitness Center  0.06
```

----Jaypee Vasant Continental, Vasant Vihar----

```
                  venue  freq
0                  Café  0.15
1            Pizza Place  0.07
2   Fast Food Restaurant  0.07
3     Chinese Restaurant  0.07
4             Restaurant  0.07
```

----Jor Bagh----

```
                venue  freq
0      Metro Station    0.25
1   Indian Restaurant    0.25
2     Ice Cream Shop    0.25
3             Bakery    0.25
4                ATM  0.00
```

----Kailash Colony----

```
                  venue  freq
0                    Bar  0.12
1          Dessert Shop    0.12
2      Department Store    0.12
3                Bakery  0.06
4            Restaurant  0.06
```

----Kalkaji----

```
                  venue  freq
0   Fast Food Restaurant  0.22
1                 Market  0.22
2           Dessert Shop  0.11
3            Pizza Place  0.11
4      Indian Restaurant  0.11
```

----Kamla Nagar----

	venue	freq
0	Breakfast Spot	0.15
1	Fast Food Restaurant	0.15
2	Chinese Restaurant	0.10
3	Coffee Shop	0.10
4	Indian Restaurant	0.10

----Kapashera----

	venue	freq
0	ATM	0.25
1	Convenience Store	0.25
2	Food Truck	0.25
3	Food Court	0.25
4	Northeast Indian Restaurant	0.00

----Karampura----

	venue	freq
0	Indian Restaurant	0.25
1	Vegetarian / Vegan Restaurant	0.25
2	Fried Chicken Joint	0.25
3	Moving Target	0.25
4	ATM	0.00

----Karkardooma----

	venue	freq
0	Indian Restaurant	0.33
1	Plaza	0.17
2	Pizza Place	0.17
3	Train Station	0.17
4	Food Truck	0.17

----Karol Bagh----

	venue	freq
0	Indian Restaurant	0.25
1	Fast Food Restaurant	0.19
2	Dessert Shop	0.06
3	Hotel	0.06
4	Coffee Shop	0.06

----Kasbah, Greater Kailash (GK) 1----

	venue	freq
0	Café	0.19
1	Indian Restaurant	0.14
2	Nightclub	0.10
3	Market	0.10
4	Pool	0.05

----Kashmiri Gate----

	venue	freq
0	Pizza Place	0.17

	venue	freq
1	American Restaurant	0.17
2	Bus Station	0.17
3	Historic Site	0.17
4	Fast Food Restaurant	0.17

----Khan Market----

	venue	freq
0	Café	0.18
1	Coffee Shop	0.09
2	Chinese Restaurant	0.07
3	Bar	0.07
4	Bookstore	0.04

----Kirti Nagar----

	venue	freq
0	ATM	0.25
1	Fish & Chips Shop	0.25
2	Convenience Store	0.25
3	Pizza Place	0.25
4	Karaoke Bar	0.00

----Krishna Nagar----

	venue	freq
0	Pizza Place	0.50
1	Park	0.25
2	Accessories Store	0.25
3	Jazz Club	0.00
4	Northeast Indian Restaurant	0.00

----Lado Sarai----

	venue	freq
0	Shopping Mall	0.33
1	Golf Course	0.17
2	Furniture / Home Store	0.17
3	BBQ Joint	0.17
4	Nightclub	0.17

----Lajpat Nagar 1----

	venue	freq
0	Fast Food Restaurant	0.22
1	Coffee Shop	0.11
2	Music Store	0.11
3	Neighborhood	0.11
4	Market	0.11

----Lajpat Nagar 2----

	venue	freq
0	Pizza Place	0.12
1	Donut Shop	0.08
2	Fast Food Restaurant	0.08
3	Café	0.08

	venue	freq
4	Indian Restaurant	0.08

----Lajpat Nagar 4----

	venue	freq
0	Indian Restaurant	0.25
1	Café	0.17
2	Market	0.17
3	Fast Food Restaurant	0.08
4	Restaurant	0.08

----Lawrence Road----

	venue	freq
0	Department Store	0.2
1	Pharmacy	0.2
2	Basketball Court	0.2
3	Light Rail Station	0.2
4	Café	0.2

----Laxmi Nagar----

	venue	freq
0	Dessert Shop	0.25
1	Pizza Place	0.25
2	Arcade	0.25
3	Bakery	0.25
4	Northeast Indian Restaurant	0.00

----Le Meridien, Janpath----

	venue	freq
0	Hotel	0.30
1	Indian Restaurant	0.13
2	Restaurant	0.09
3	Cocktail Bar	0.09
4	Italian Restaurant	0.04

----Lemon Tree Premier, Aerocity----

	venue	freq
0	Hotel	0.35
1	Indian Restaurant	0.08
2	Coffee Shop	0.08
3	Hotel Bar	0.08
4	Dumpling Restaurant	0.04

----Living Style Mall, Jasola----

	venue	freq
0	Indian Restaurant	0.33
1	Soccer Stadium	0.17
2	Pizza Place	0.17
3	Fast Food Restaurant	0.17
4	Bakery	0.17

----Lodhi Colony----

	venue	freq
0	Indian Restaurant	0.14
1	Shopping Mall	0.07
2	Japanese Restaurant	0.07
3	Italian Restaurant	0.07
4	Tea Room	0.07

----Lodhi Road----

	venue	freq
0	Middle Eastern Restaurant	0.07
1	Indian Restaurant	0.07
2	Food Court	0.07
3	Restaurant	0.07
4	Temple	0.07

----MG Road----

	venue	freq
0	Furniture / Home Store	0.33
1	Indian Restaurant	0.33
2	Art Museum	0.33
3	ATM	0.00
4	Northeast Indian Restaurant	0.00

----MGF Metropolitan Mall, Saket----

	venue	freq
0	Indian Restaurant	0.10
1	Lounge	0.07
2	Bar	0.07
3	Clothing Store	0.07
4	Chinese Restaurant	0.06

----MGM Club, Daryaganj----

	venue	freq
0	Restaurant	0.33
1	Indian Restaurant	0.33
2	Road	0.17
3	Hotel	0.17
4	Multiplex	0.00

----Mahipalpur----

	venue	freq
0	Hotel	0.31
1	Plaza	0.08
2	American Restaurant	0.08
3	Shoe Store	0.08
4	Spa	0.08

----Maidens Hotel, Civil Lines----

	venue	freq
0	Light Rail Station	0.29

	venue	freq
1	Italian Restaurant	0.14
2	Café	0.14
3	Hotel	0.14
4	Indian Restaurant	0.14

----Majnu ka Tila----

	venue	freq
0	Asian Restaurant	0.33
1	Hotel	0.11
2	Café	0.11
3	Restaurant	0.11
4	Tibetan Restaurant	0.11

----Malviya Nagar----

	venue	freq
0	Coffee Shop	0.17
1	Hotel	0.08
2	Pizza Place	0.08
3	Donut Shop	0.08
4	Miscellaneous Shop	0.08

----Mandi House----

	venue	freq
0	Theater	0.20
1	Indian Restaurant	0.13
2	Café	0.13
3	Art Gallery	0.13
4	Bakery	0.13

----Mathura Road----

	venue	freq
0	Indian Sweet Shop	0.33
1	Breakfast Spot	0.33
2	Light Rail Station	0.33
3	ATM	0.00
4	Northeast Indian Restaurant	0.00

----Mayapuri Phase 2----

	venue	freq
0	Garden	0.2
1	Food Truck	0.2
2	Restaurant	0.2
3	Hotel	0.2
4	Auto Garage	0.2

----Mayur Vihar Phase 1----

	venue	freq
0	Pizza Place	0.25
1	Garden	0.25
2	Indian Restaurant	0.25
3	Gym / Fitness Center	0.25

	venue	freq
4	Nightlife Spot	0.00

----Mayur Vihar Phase 2----

	venue	freq
0	Wings Joint	0.2
1	Juice Bar	0.2
2	Ice Cream Shop	0.2
3	Sandwich Place	0.2
4	Café	0.2

----Mayur Vihar Phase 3----

	venue	freq
0	Hotel	1.0
1	ATM	0.0
2	Northeast Indian Restaurant	0.0
3	Multicuisine Indian Restaurant	0.0
4	Multiplex	0.0

----Mehrauli----

	venue	freq
0	Thai Restaurant	0.23
1	Bar	0.15
2	Monument / Landmark	0.08
3	Italian Restaurant	0.08
4	Whisky Bar	0.08

----Metro Walk Mall, Rohini----

	venue	freq
0	Theme Park	0.2
1	Pizza Place	0.2
2	Shopping Mall	0.2
3	Fast Food Restaurant	0.2
4	Asian Restaurant	0.2

----Model Town 1----

	venue	freq
0	Playground	0.2
1	Pool Hall	0.2
2	Convenience Store	0.2
3	Lake	0.2
4	Food Truck	0.2

----Model Town 2----

	venue	freq
0	Pizza Place	0.17
1	Donut Shop	0.17
2	Frozen Yogurt Shop	0.17
3	Coffee Shop	0.17
4	Fast Food Restaurant	0.17

----Model Town 3----

	venue	freq
0	Indian Restaurant	0.33
1	Park	0.33
2	Chinese Restaurant	0.33
3	ATM	0.00
4	Northeast Indian Restaurant	0.00

----Moments Mall, Kirti Nagar----

	venue	freq
0	Metro Station	0.14
1	Donut Shop	0.07
2	Flea Market	0.07
3	Moving Target	0.07
4	Sports Bar	0.07

----Moti Bagh----

	venue	freq
0	South Indian Restaurant	0.25
1	Arcade	0.25
2	Café	0.25
3	Pizza Place	0.25
4	Karaoke Bar	0.00

----Moti Nagar----

	venue	freq
0	Metro Station	0.25
1	Fried Chicken Joint	0.25
2	Ice Cream Shop	0.25
3	Flea Market	0.25
4	ATM	0.00

----Mukherjee Nagar----

	venue	freq
0	Music Venue	0.25
1	Ice Cream Shop	0.25
2	Mobile Phone Shop	0.25
3	Bakery	0.25
4	ATM	0.00

----Munirka----

	venue	freq
0	Indian Restaurant	0.2
1	Sandwich Place	0.1
2	Flea Market	0.1
3	Bakery	0.1
4	Department Store	0.1

----Najafgarh----

	venue	freq
0	Electronics Store	0.5

	venue	freq
1	Food & Drink Shop	0.5
2	ATM	0.0
3	Northeast Indian Restaurant	0.0
4	Multiplex	0.0

----Naraina----

	venue	freq
0	Pizza Place	0.25
1	Indian Restaurant	0.25
2	Café	0.25
3	Snack Place	0.25
4	Performing Arts Venue	0.00

----Nehru Place----

	venue	freq
0	Food	0.07
1	Fast Food Restaurant	0.07
2	Lounge	0.07
3	Electronics Store	0.07
4	Coffee Shop	0.07

----Netaji Subhash Place----

	venue	freq
0	Coffee Shop	0.16
1	Indian Restaurant	0.16
2	Fast Food Restaurant	0.11
3	Shopping Mall	0.11
4	Snack Place	0.05

----New Friends Colony----

	venue	freq
0	Café	0.19
1	Dessert Shop	0.06
2	Hotel	0.06
3	Plaza	0.06
4	Pizza Place	0.06

----Nizamuddin----

	venue	freq
0	Garden	0.2
1	Indian Restaurant	0.2
2	Pizza Place	0.1
3	Park	0.1
4	Monument / Landmark	0.1

----Okhla Phase 1----

	venue	freq
0	Cosmetics Shop	0.5
1	Print Shop	0.5
2	ATM	0.0
3	Northeast Indian Restaurant	0.0

```
4         Multiplex    0.0
```

----PVR Anupam Complex----

	venue	freq
0	Multiplex	0.33
1	Café	0.17
2	Pizza Place	0.17
3	Coffee Shop	0.17
4	Lounge	0.17

----Pacific Mall, Tagore Garden----

	venue	freq
0	Coffee Shop	0.15
1	Restaurant	0.10
2	Donut Shop	0.10
3	Shopping Mall	0.10
4	Multiplex	0.10

----Paharganj----

	venue	freq
0	Hotel	0.39
1	Indian Restaurant	0.10
2	Restaurant	0.07
3	Café	0.05
4	Korean Restaurant	0.02

----Palam----

	venue	freq
0	Bar	0.5
1	Mobile Phone Shop	0.5
2	ATM	0.0
3	Moving Target	0.0
4	Multicuisine Indian Restaurant	0.0

----Palate of Delhi, Chanakyapuri----

	venue	freq
0	Golf Course	0.25
1	Campground	0.25
2	Bakery	0.25
3	Sake Bar	0.25
4	Multiplex	0.00

----Panchsheel Park----

	venue	freq
0	Pizza Place	0.2
1	Gaming Cafe	0.2
2	Event Space	0.2
3	American Restaurant	0.2
4	Bar	0.2

----Pandara Road Market----

	venue	freq
0	Indian Restaurant	0.27
1	Smoke Shop	0.13
2	Snack Place	0.07
3	Chinese Restaurant	0.07
4	Restaurant	0.07

----Pandav Nagar----

	venue	freq
0	Dessert Shop	0.22
1	Food & Drink Shop	0.11
2	Moving Target	0.11
3	Convenience Store	0.11
4	Park	0.11

----Paschim Vihar----

	venue	freq
0	Multicuisine Indian Restaurant	0.12
1	Market	0.12
2	Coffee Shop	0.12
3	Chinese Restaurant	0.12
4	Sandwich Place	0.12

----Patparganj----

	venue	freq
0	Indian Restaurant	0.25
1	Gift Shop	0.12
2	Pizza Place	0.12
3	Café	0.12
4	Shopping Mall	0.12

----Piccadily Hotel, Janakpuri----

	venue	freq
0	Fast Food Restaurant	0.15
1	Sandwich Place	0.15
2	Indian Restaurant	0.15
3	Pizza Place	0.08
4	Chinese Restaurant	0.08

----Pitampura----

	venue	freq
0	Snack Place	0.25
1	Indian Restaurant	0.25
2	Fast Food Restaurant	0.25
3	Market	0.25
4	North Indian Restaurant	0.00

----Pragati Maidan----

	venue	freq
0	Pool	0.25

	venue	freq
1	Museum	0.12
2	Art Museum	0.12
3	Historic Site	0.12
4	History Museum	0.12

----Prashant Vihar----

	venue	freq
0	Indian Restaurant	0.50
1	Pizza Place	0.33
2	Multiplex	0.17
3	Northeast Indian Restaurant	0.00
4	Multicuisine Indian Restaurant	0.00

----Preet Vihar----

	venue	freq
0	Pizza Place	0.17
1	BBQ Joint	0.17
2	Fast Food Restaurant	0.17
3	Arcade	0.17
4	Ice Cream Shop	0.17

----Premier Inn, Shalimar Bagh----

	venue	freq
0	Hotel	0.5
1	Café	0.5
2	ATM	0.0
3	Northeast Indian Restaurant	0.0
4	Multiplex	0.0

----Pride Plaza Hotel, Aerocity----

	venue	freq
0	Hotel	0.36
1	Indian Restaurant	0.08
2	Coffee Shop	0.08
3	Hotel Bar	0.08
4	Shopping Mall	0.04

----Punjabi Bagh----

	venue	freq
0	Donut Shop	0.12
1	Hookah Bar	0.12
2	Garden Center	0.12
3	Convenience Store	0.12
4	Indian Restaurant	0.12

----Qutab Institutional Area----

	venue	freq
0	Restaurant	0.25
1	Indian Restaurant	0.25
2	Moroccan Restaurant	0.12
3	Modern European Restaurant	0.12

	venue	freq
4	Food Truck	0.12

----R K Puram----

	venue	freq
0	Comfort Food Restaurant	0.14
1	Coffee Shop	0.14
2	Asian Restaurant	0.14
3	Park	0.14
4	Thai Restaurant	0.14

----Race Course----

	venue	freq
0	Women's Store	0.2
1	Food	0.2
2	Gym / Fitness Center	0.2
3	Racetrack	0.2
4	History Museum	0.2

----Radisson Blu Plaza Delhi, Mahipalpur----

	venue	freq
0	Hotel	0.29
1	Plaza	0.14
2	Spa	0.14
3	Indian Restaurant	0.14
4	American Restaurant	0.14

----Radisson Blu, Paschim Vihar----

	venue	freq
0	Hotel	0.33
1	Indian Restaurant	0.17
2	Coffee Shop	0.17
3	Fast Food Restaurant	0.17
4	Food Truck	0.17

----Rajendra Place----

	venue	freq
0	Pizza Place	0.2
1	Hotel	0.2
2	Fast Food Restaurant	0.2
3	Coffee Shop	0.1
4	Convenience Store	0.1

----Rajinder Nagar----

	venue	freq
0	Food & Drink Shop	0.17
1	Pizza Place	0.17
2	Gym / Fitness Center	0.17
3	Sandwich Place	0.17
4	Market	0.17

----Rajouri Garden----

	venue	freq
0	Bakery	0.18
1	Café	0.18
2	Diner	0.09
3	Pub	0.09
4	Market	0.09

----Rohini----

	venue	freq
0	Department Store	0.25
1	Indian Restaurant	0.25
2	Light Rail Station	0.25
3	Fast Food Restaurant	0.25
4	Northeast Indian Restaurant	0.00

----Roseate House, Aerocity----

	venue	freq
0	Hotel	0.35
1	Indian Restaurant	0.08
2	Coffee Shop	0.08
3	Hotel Bar	0.08
4	Dumpling Restaurant	0.04

----SDA----

	venue	freq
0	Café	0.33
1	Beer Garden	0.08
2	Chinese Restaurant	0.08
3	Coffee Shop	0.08
4	Asian Restaurant	0.08

----Safdarjung----

	venue	freq
0	Indian Restaurant	0.13
1	Coffee Shop	0.13
2	Dessert Shop	0.07
3	Sandwich Place	0.07
4	Mexican Restaurant	0.07

----Sainik Farms----

	venue	freq
0	Asian Restaurant	0.4
1	Indian Restaurant	0.2
2	Pub	0.2
3	Bakery	0.2
4	ATM	0.0

----Saket----

	venue	freq
0	Pizza Place	0.14

	venue	freq
1	Café	0.14
2	Indian Restaurant	0.14
3	Lounge	0.07
4	Multiplex	0.07

----Sangam Courtyard, RK Puram----

	venue	freq
0	Multiplex	0.15
1	Coffee Shop	0.15
2	Comfort Food Restaurant	0.08
3	Shopping Mall	0.08
4	Café	0.08

----Sarita Vihar----

	venue	freq
0	Café	0.50
1	Arcade	0.25
2	Park	0.25
3	ATM	0.00
4	Northeast Indian Restaurant	0.00

----Sarojini Nagar----

	venue	freq
0	Fast Food Restaurant	0.4
1	Pizza Place	0.2
2	Snack Place	0.2
3	Indian Restaurant	0.2
4	North Indian Restaurant	0.0

----Satyaniketan----

	venue	freq
0	Bistro	0.17
1	Snack Place	0.17
2	Deli / Bodega	0.17
3	Salad Place	0.17
4	Café	0.17

----Sector 15, Dwarka----

	venue	freq
0	IT Services	0.33
1	Train Station	0.33
2	Light Rail Station	0.33
3	ATM	0.00
4	North Indian Restaurant	0.00

----Select Citywalk Mall, Saket----

	venue	freq
0	Indian Restaurant	0.11
1	Lounge	0.07
2	Bar	0.07
3	Clothing Store	0.07

	venue	freq
4	Café	0.07

----Shahdara----

	venue	freq
0	Park	0.33
1	Mobile Phone Shop	0.33
2	Chocolate Shop	0.33
3	ATM	0.00
4	North Indian Restaurant	0.00

----Shahpur Jat----

	venue	freq
0	Bar	0.29
1	Australian Restaurant	0.14
2	Chinese Restaurant	0.14
3	Stadium	0.14
4	Indian Restaurant	0.14

----Shakarpur----

	venue	freq
0	Snack Place	0.14
1	Diner	0.14
2	Shopping Mall	0.14
3	Gym	0.14
4	Light Rail Station	0.14

----Shalimar Bagh----

	venue	freq
0	Pizza Place	0.17
1	Convenience Store	0.17
2	Gym / Fitness Center	0.17
3	Coffee Shop	0.17
4	Bakery	0.17

----Shangri La's - Eros hotel, Janpath----

	venue	freq
0	Hotel	0.21
1	Indian Restaurant	0.14
2	Spa	0.10
3	Restaurant	0.07
4	Italian Restaurant	0.07

----Shanti Niketan Marg----

	venue	freq
0	Café	0.2
1	Pizza Place	0.2
2	Gourmet Shop	0.2
3	Convenience Store	0.2
4	Bakery	0.2

----Sheikh Sarai----

	venue	freq
0	Thai Restaurant	0.38
1	Market	0.12
2	Historic Site	0.12
3	Café	0.12
4	Italian Restaurant	0.12

----Sheraton New Delhi Hotel, Saket----

	venue	freq
0	Indian Restaurant	0.13
1	Clothing Store	0.08
2	Hotel	0.07
3	Bar	0.07
4	Donut Shop	0.05

----South Extension 1----

	venue	freq
0	Indian Restaurant	0.25
1	Coffee Shop	0.25
2	Pizza Place	0.17
3	Fast Food Restaurant	0.08
4	Chinese Restaurant	0.08

----South Extension 2----

	venue	freq
0	Indian Restaurant	0.20
1	Coffee Shop	0.15
2	Pizza Place	0.10
3	Market	0.10
4	Sporting Goods Shop	0.05

----Southern Park Mall, Saket----

	venue	freq
0	Indian Restaurant	0.12
1	Bar	0.07
2	Lounge	0.07
3	Clothing Store	0.07
4	Café	0.06

----Spark Mall, Kamla Nagar----

	venue	freq
0	Fast Food Restaurant	0.12
1	Breakfast Spot	0.12
2	Pizza Place	0.08
3	Donut Shop	0.08
4	Coffee Shop	0.08

----Star City Mall, Mayur Vihar Phase 1----

	venue	freq
0	Hotel	0.29

	venue	freq
1	Restaurant	0.12
2	Department Store	0.12
3	Bakery	0.06
4	Light Rail Station	0.06

----Subhash Nagar----

	venue	freq
0	Multiplex	0.25
1	Skating Rink	0.25
2	Park	0.25
3	Sculpture Garden	0.25
4	ATM	0.00

----Sunder Nagar----

	venue	freq
0	Indian Restaurant	0.23
1	Italian Restaurant	0.15
2	Hotel	0.15
3	Golf Course	0.08
4	Convenience Store	0.08

----T3 Domestic Arrival, Aerocity----

	venue	freq
0	Coffee Shop	0.18
1	Dessert Shop	0.09
2	Electronics Store	0.09
3	Pizza Place	0.09
4	Airport	0.09

----TDI Mall, Rajouri Garden----

	venue	freq
0	Indian Restaurant	0.16
1	Fast Food Restaurant	0.16
2	Café	0.12
3	Restaurant	0.08
4	Dessert Shop	0.08

----Tagore Garden----

	venue	freq
0	Park	0.08
1	Indian Restaurant	0.08
2	Food Truck	0.08
3	BBQ Joint	0.08
4	Market	0.08

----Taj Vivanta, Khan Market----

	venue	freq
0	Café	0.17
1	Coffee Shop	0.09
2	Chinese Restaurant	0.06
3	Bar	0.06

	venue	freq
4	Bookstore	0.04

----The Ashok, Chanakyapuri----

	venue	freq
0	Nightclub	0.20
1	Indian Restaurant	0.20
2	Chinese Restaurant	0.07
3	Café	0.07
4	Italian Restaurant	0.07

----The Claridges, Aurangzeb Road----

	venue	freq
0	Hotel	0.22
1	North Indian Restaurant	0.11
2	Breakfast Spot	0.11
3	Chinese Restaurant	0.11
4	Smoke Shop	0.11

----The Grand New Delhi, Vasant Kunj----

	venue	freq
0	Coffee Shop	0.12
1	Fast Food Restaurant	0.08
2	Clothing Store	0.08
3	Indian Restaurant	0.04
4	Beer Garden	0.04

----The Imperial, Janpath----

	venue	freq
0	Indian Restaurant	0.18
1	Hotel	0.15
2	Italian Restaurant	0.09
3	Coffee Shop	0.06
4	Café	0.06

----The India Mall, New Friends Colony----

	venue	freq
0	Café	0.18
1	Plaza	0.06
2	Hotel	0.06
3	Pharmacy	0.06
4	Fast Food Restaurant	0.06

----The Lalit New Delhi, Barakhamba Road----

	venue	freq
0	Indian Restaurant	0.33
1	Bakery	0.33
2	Hotel Bar	0.17
3	Asian Restaurant	0.17
4	ATM	0.00

----The Leela Ambience Convention Hotel----

	venue	freq
0	Pizza Place	0.25
1	Indian Restaurant	0.25
2	Hotel	0.25
3	Café	0.25
4	Northeast Indian Restaurant	0.00

----The Leela Palace, Chanakyapuri----

	venue	freq
0	Indian Restaurant	0.17
1	Cocktail Bar	0.08
2	Northeast Indian Restaurant	0.08
3	Breakfast Spot	0.08
4	Hotel	0.08

----The Lodhi, Lodhi Road----

	venue	freq
0	Chinese Restaurant	0.12
1	Indian Restaurant	0.12
2	Hotel	0.12
3	Cocktail Bar	0.06
4	Restaurant	0.06

----The Park, Connaught Place----

	venue	freq
0	Hotel	0.20
1	Indian Restaurant	0.10
2	Italian Restaurant	0.07
3	Coffee Shop	0.07
4	Spa	0.07

----The Suryaa New Delhi, New Friends Colony----

	venue	freq
0	Café	0.16
1	Pizza Place	0.05
2	Lounge	0.05
3	Coffee Shop	0.05
4	Middle Eastern Restaurant	0.05

----The Taj Mahal Hotel, Mansingh Road----

	venue	freq
0	Chinese Restaurant	0.17
1	Jewelry Store	0.17
2	Japanese Restaurant	0.17
3	Restaurant	0.17
4	Indian Restaurant	0.17

----The Taj Palace Hotel, Chanakyapuri----

	venue	freq
0	Hotel	0.12

	venue	freq
1	Indian Restaurant	0.12
2	Café	0.09
3	Chinese Restaurant	0.06
4	Diner	0.03

----The Uppal, Aerocity----

	venue	freq
0	Hotel	0.75
1	Indian Restaurant	0.25
2	ATM	0.00
3	Northeast Indian Restaurant	0.00
4	Multicuisine Indian Restaurant	0.00

----The Village Restaurant Complex, Khel Gaon Marg----

	venue	freq
0	Bar	0.18
1	Hotel	0.09
2	Indian Restaurant	0.09
3	Australian Restaurant	0.09
4	Theater	0.09

----Tilak Nagar----

	venue	freq
0	Fast Food Restaurant	0.50
1	Women's Store	0.25
2	Indian Restaurant	0.25
3	Northeast Indian Restaurant	0.00
4	Multiplex	0.00

----Tughlakabad Institutional Area----

	venue	freq
0	Steakhouse	0.2
1	Bar	0.2
2	Hotel	0.2
3	Restaurant	0.2
4	Market	0.2

----Uday Park----

	venue	freq
0	Pizza Place	0.14
1	Park	0.14
2	Music Venue	0.14
3	Café	0.14
4	Market	0.14

----Unity One Mall, Janakpuri----

	venue	freq
0	Indian Restaurant	0.25
1	Pizza Place	0.12
2	Sandwich Place	0.12
3	Chinese Restaurant	0.12

4   Fast Food Restaurant   0.12

----Uttam Nagar----

	venue	freq
0	ATM	0.5
1	Indian Restaurant	0.5
2	Northeast Indian Restaurant	0.0
3	Multicuisine Indian Restaurant	0.0
4	Multiplex	0.0

----V3S Mall, Laxmi Nagar----

	venue	freq
0	Fast Food Restaurant	0.12
1	Food Court	0.06
2	Food & Drink Shop	0.06
3	Multiplex	0.06
4	Pizza Place	0.06

----Vasant Kunj----

	venue	freq
0	Chinese Restaurant	0.17
1	Vegetarian / Vegan Restaurant	0.17
2	Bar	0.17
3	Sandwich Place	0.17
4	Fast Food Restaurant	0.17

----Vasant Square Mall, Vasant Kunj----

	venue	freq
0	Pizza Place	0.12
1	Chinese Restaurant	0.12
2	Vegetarian / Vegan Restaurant	0.12
3	Fast Food Restaurant	0.12
4	Bar	0.12

----Vasant Vihar----

	venue	freq
0	Café	0.10
1	Fast Food Restaurant	0.07
2	Coffee Shop	0.07
3	Restaurant	0.07
4	Chinese Restaurant	0.07

----Vasundhara Enclave----

	venue	freq
0	ATM	1.0
1	Moving Target	0.0
2	Multicuisine Indian Restaurant	0.0
3	Multiplex	0.0
4	Museum	0.0

----Vijay Nagar----

	venue	freq
0	Café	0.21
1	Bakery	0.07
2	Chinese Restaurant	0.07
3	Pet Store	0.07
4	Italian Restaurant	0.07

----Vikas Marg----

	venue	freq
0	ATM	0.2
1	Pharmacy	0.2
2	Burger Joint	0.2
3	Burrito Place	0.2
4	Café	0.2

----Vikaspuri----

	venue	freq
0	Pizza Place	0.33
1	Ice Cream Shop	0.33
2	Fast Food Restaurant	0.33
3	Northeast Indian Restaurant	0.00
4	Multiplex	0.00

----Vivek Vihar----

	venue	freq
0	Juice Bar	0.4
1	Department Store	0.2
2	Bed & Breakfast	0.2
3	Athletics & Sports	0.2
4	Pharmacy	0.0

----West End Mall, Janak Puri----

	venue	freq
0	Fast Food Restaurant	0.14
1	Sandwich Place	0.14
2	Indian Restaurant	0.14
3	Restaurant	0.07
4	Pizza Place	0.07

----West Gate Mall, Rajouri Garden----

	venue	freq
0	Fast Food Restaurant	0.20
1	Café	0.13
2	Restaurant	0.13
3	Dessert Shop	0.07
4	Indian Restaurant	0.07

----West Patel Nagar----

	venue	freq
0	Pizza Place	0.2

```
1        Electronics  Store    0.2
2   Gym / Fitness  Center    0.2
3                    Hotel    0.2
4            Metro  Station    0.2
```

----Worldmark 1, Aerocity----

```
                venue    freq
0                Hotel    0.32
1   Indian  Restaurant    0.07
2     Bed & Breakfast    0.07
3          Coffee  Shop    0.07
4            Hotel  Bar    0.07
```

----Yusuf Sarai----

```
                venue    freq
0   Indian  Restaurant    0.15
1   Chinese  Restaurant    0.15
2          Coffee  Shop    0.15
3         Dessert Shop    0.08
4                  Bar    0.08
```

----ibis New Delhi, Aerocity----

```
                venue    freq
0                Hotel    0.35
1   Indian  Restaurant    0.08
2          Coffee  Shop    0.08
3            Hotel  Bar    0.08
4   Dumpling  Restaurant    0.04
```

In [28]:
```python
## put that into a pandas dataframe
## First, write a function to sort the venues in descending order.

def return_most_common_venues(row, num_top_venues):
    row_categories = row.iloc[1:]
    row_categories_sorted = row_categories.sort_values(ascending=False)

    return row_categories_sorted.index.values[0:num_top_venues]
```

In [29]:

```python
## create the new dataframe and display the top 10 venues for each Locality.

num_top_venues = 10

indicators = ['st', 'nd', 'rd']

# create columns according to number of top venues
columns = ['Locality']
for ind in np.arange(num_top_venues):
    try:
        columns.append('{}{} Most Common Venue'.format(ind+1, indicators[ind
]))
    except:
        columns.append('{}th Most Common Venue'.format(ind+1))

# create a new dataframe
Locality_venues_sorted = pd.DataFrame(columns=columns)
Locality_venues_sorted['Locality'] = New_Delhi_grouped['Locality']

for ind in np.arange(New_Delhi_grouped.shape[0]):
    Locality_venues_sorted.iloc[ind, 1:] = return_most_common_venues(New_Delhi
_grouped.iloc[ind, :], num_top_venues)

Locality_venues_sorted
```

Out[29]:

	Locality	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Mo Commo Venu
0	ARSS Mall, Paschim Vihar	Indian Restaurant	Sandwich Place	Market	Multicuisine Indian Restaurant	Coffee Shop	Chinese Restaurant	AT
1	Adchini	Café	Indian Restaurant	Parsi Restaurant	Pub	Women's Store	Fast Food Restaurant	Froze Yogu Sho
2	Aditya Mega Mall, Karkardooma	Pizza Place	Indian Restaurant	Shopping Mall	Multiplex	Café	Hotel	Frie Chicke Joi
3	Aerocity	Hotel	Airport Terminal	Airport Lounge	Rental Car Location	Coffee Shop	Fast Food Restaurant	Frenc Restaura
4	Aggarwal City Mall, Pitampura	Pizza Place	Business Service	Chinese Restaurant	Department Store	Indian Restaurant	Indian Chinese Restaurant	Fast Foo Restaura
...	...	...	...	...	...	...	...	...
233	West Gate Mall, Rajouri Garden	Fast Food Restaurant	Café Restaurant Pizza Place			Shopping Mall	Hookah Bar	Garde
234	West Patel Nagar	Pizza Place	Hotel	Electronics Store	Gym / Fitness Center	Metro Station	Fish & Chips Shop	Froze Yogu Sho
235	Worldmark 1, Aerocity	Hotel	Indian Restaurant	Hotel Bar	Bed & Breakfast	Coffee Shop	Bakery	Shoppin M
236	Yusuf Sarai	Chinese Restaurant	Indian Restaurant	Coffee Shop	Park	Bar	Asian Restaurant	Korea Restaura
237	ibis New Delhi, Aerocity	Hotel	Indian Restaurant	Hotel Bar	Coffee Shop	Lounge	Dumpling Restaurant	Sp

238 rows × 11 columns

In [30]:

```
## Cluster Locality
## Run k-means to cluster the Locality into 5 clusters.

# set number of clusters
kclusters = 5

New_Delhi_clustering = New_Delhi_grouped.drop('Locality', 1)

# run k-means clustering
kmeans = KMeans(n_clusters=kclusters, random_state=0).fit(New_Delhi_clustering
)

# check cluster labels generated for each row in the dataframe
kmeans.labels_[0:10]
kmeans.labels_.shape
```

Out[30]: (238,)

In [34]:

```python
# add clustering labels
New_Delhi_merged = df_final.head(238)
New_Delhi_merged['Cluster Labels'] = kmeans.labels_

# merge New_Delhi_grouped with df_Chinese to add latitude/longitude for each Locality
New_Delhi_merged = New_Delhi_merged.join(Locality_venues_sorted.set_index('Locality'), on='Locality')

New_Delhi_merged.head()
```

/opt/conda/envs/Python-3.7-main/lib/python3.7/site-packages/ipykernel/_main_
_.py:3: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  app.launch_new_instance()

Out[34]:

	Locality	Lat	Lng	No_of_Restaurant	Cusines	Agg_Rating	Comments
0	ARSS Mall, Paschim Vihar	28.668945	77.101544	1	North Indian, South Indian, Chinese, Mithai, F...	3.100000	Average
1	Adchini	28.537063	77.197808	13	Fast Food, North Indian, Seafood, Continental,...	3.292308	Average, Good, Poor, Very Good
2	Aditya Mega Mall, Karkardooma	28.656131	77.301266	4	Finger Food, North Indian, Mughlai, Pizza, Fas...	3.275000	Average, Good
3	Aerocity	28.553077	77.104270	2	Fast Food, Italian, Pizza, North Indian, Conti...	3.200000	Average
4	Aggarwal City Mall, Pitampura	28.690020	77.134650	3	North Indian, Chinese, Street Food, Mithai, No...	3.033333	Average

In [35]:
```python
# create final map
map_clusters = folium.Map(location=[latitude, longitude], zoom_start=10)

# set color scheme for the clusters
x = np.arange(kclusters)
ys = [i+x+(i*x)**2 for i in range(kclusters)]
#colors_array = cm.rainbow(np.linspace(0, 1, len(ys)))
#rainbow = [colors.rgb2hex(i) for i in colors_array]
colors = ['red', 'green', 'blue','yellow','orange']

# add markers to the map
markers_colors = []
for lat, lon, poi, cluster in zip(New_Delhi_merged['Lat'], New_Delhi_merged['Lng'], New_Delhi_merged['Locality'], New_Delhi_merged['Cluster Labels']):
    label = folium.Popup(str(poi) + ' Cluster ' + str(cluster), parse_html=True)
    folium.CircleMarker(
        [lat, lon],
        radius=5,
        popup=label,
        color='black',
        fill=True,
        fill_color=colors[cluster],
        fill_opacity=0.7).add_to(map_clusters)

map_clusters
```

Out[35]: Make this Notebook Trusted to load map: File -> Trust Notebook

In [36]:
```python
## Examine Clusters

## Cluster 1
New_Delhi_merged.loc[New_Delhi_merged['Cluster Labels'] == 0, New_Delhi_merged
.columns[[1] + list(range(5, New_Delhi_merged.shape[1]))]]
```

Out[36]:

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd M Comm Ve
5	28.700516	3.040000	Average, Good, Poor	594	0	Pizza Place	Bus Station	Multi
11	28.562580	3.750000	Average, Good, Very Good	875	0	Department Store	Performing Arts Venue	Fast F Restau
13	28.690182	3.090000	Average, Good, Poor	971	0	Pizza Place	BBQ Joint	Ma
14	28.693969	3.378571	Average, Good	2343	0	Pizza Place	Asian Restaurant	Co S
18	28.696302	3.300000	Average, Good	415	0	Pizza Place	Asian Restaurant	Co S
22	28.654105	3.085714	Average	80	0	Pizza Place	Fish & Chips Shop	Gam C
24	28.649658	3.800000	Average, Excellent, Good, Very Good	1410	0	Snack Place	Hardware Store	Ind Restau
26	28.538688	3.130303	Average, Good, Poor	2578	0	Market	Fast Food Restaurant	C
36	28.692546	3.480000	Average, Good	948	0	Indian Restaurant	Coffee Shop	Shopp
42	28.576161	2.983333	Average, Good, Poor	542	0	Indian Restaurant	Fast Food Restaurant	Wom St
48	28.630149	2.950000	Average, Good, Poor	471	0	Chinese Restaurant	Sandwich Place	Ind Restau
50	28.645084	3.235000	Average, Good, Poor, Very Good	2578	0	Pizza Place	Coffee Shop	Be Break
57	28.699837	3.376471	Average, Good, Very Good	2460	0	Pizza Place	Food Truck	Bike Re / B Sh
73	28.643036	3.000000	Average	7	0	Pizza Place	Gym /	

								Fitness Center	C
87	28.582031	3.117143	Average, Good, Poor, Very Good	2140	0	Sandwich Place	Fast Food Restaurant	Sn Pl
90	28.642755	3.450000	Average, Good	322	0	Pizza Place	Fast Food Restaurant	Co S
94	28.538153	3.117143	Average, Good, Poor	3642	0	Market	Fast Food Restaurant	Pizza Pl

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd M Comm Ve
95	28.681154	3.453448	Average, Good, Very Good	5267	0	Breakfast Spot	Fast Food Restaurant	Ind Restau
99	28.648795	3.238028	Average, Good, Poor, Very Good	7282	0	Indian Restaurant	Fast Food Restaurant	Pizza Pl
101	28.667644	3.300000	Average	132	0	Pizza Place	American Restaurant	Bus Sta
103	28.652501	3.080000	Average, Good, Poor	2196	0	ATM	Convenience Store	Fis Chips S
104	28.656263	3.097619	Average, Good	965	0	Pizza Place	Accessories Store	P
106	28.575525	3.126316	Average, Good	998	0	Fast Food Restaurant	Market	Ind Restau
107	28.569394	3.252381	Average, Good	1525	0	Pizza Place	Convenience Store	C
110	28.635391	3.040385	Average, Good, Poor, Very Good	2442	0	Pizza Place	Dessert Shop	Bak
130	28.724100	3.133333	Average	325	0	Pizza Place	Theme Park	Shopp
132	28.706295	3.256000	Average, Good, Very Good	1717	0	Pizza Place	Frozen Yogurt Shop	Do S
142	28.693270	3.519149	Average, Good, Very Good	7642	0	Indian Restaurant	Coffee Shop	Shopp
154	28.618935	2.900000	Average	9	0	Dessert Shop	Park	Foo Drink S
156	28.630734	3.185714	Average, Good	244	0	Indian Restaurant	Pizza Place	Ma
157	28.629505	2.600000	Average	67	0	Indian Restaurant	Fast Food Restaurant	Sandw Pl
160	28.712975	3.066667	Average	121	0			

Indian Restaurant	Pizza Place	Multi
Hotel	Coffee Shop	Ind Restau
Hotel	Indian Restaurant	Co S

	Lat	Agg_Rating	Comment	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd M Comm Ve
172	28.644281	3.626804	Averag Exceller , Goo , Poor, Ver , Goc y	25637	0	Bakery	Café	Bike S
180	28.534499	3.000000	Averag , Good, Poor	173	0	Café	Park	Arc
192	28.526856	4.066667	Very Good	802	0	Indian Restaurant	Clothing Store	H
193	28.569983	3.133333	Average, Good, Poor	988	0	Coffee Shop	Indian Restaurant	Pizza Pl
195	28.527731	3.450000	Average, Good	396	0	Indian Restaurant	Lounge	Cloth St
200	28.564288	3.200000	Average	6	0	Coffee Shop	Pizza Place	Brew
218	28.552403	3.833333	Good, Very Good	1133	0	Bar	Hotel	Kara
220	28.523519	3.700000	Good	281	0	Restaurant	Market	
221	28.560593	3.733333	Average, Good, Very Good	615	0	Market	Pizza Place	P
224	28.636921	2.819231	Average, Good, Poor	2265	0	Fast Food Restaurant	Arcade	Groc St
225	28.524070	3.686364	Average, Good, Very Good	4001	0	Pizza Place	Vegetarian / Vegan Restaurant	
230	28.658041	3.400000	Average	19	0	ATM	Burger Joint	C
232	28.667344	3.077273	Average, Good, Poor	939	0	Juice Bar	Athletics & Sports	Departm St
233	28.695096	3.050000	Average	86	0	NaN	NaN	N

In [37]:

```python
## Examine Clusters

## Cluster 2
New_Delhi_merged.loc[New_Delhi_merged['Cluster Labels'] == 1, New_Delhi_merged
.columns[[1] + list(range(5, New_Delhi_merged.shape[1]))]]
```

Out[37]:

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Mo Commo Ven
0	28.668945	3.100000	Average	117	1	Indian Restaurant	Sandwich Place	Mark
2	28.656131	3.275000	Average, Good	434	1	Pizza Place	Indian Restaurant	Shoppi M
4	28.690020	3.033333	Average				Pizza Place	Business Service	Chine Restaura
15	28.691136	3.390909	Average, Good, Very Good	126	1	Pizza Place	Indian Restaurant	Sou Indi Restaura
16	28.630440	3.208333		485	1			
			Average, Good, Poor	1779	1	Indian Restaurant	Theater	Bake
23	28.656414	3.358182	Average, Good, Very Good	6668	1	Indian Restaurant	Snack Place	Dess Sh
33	28.657388	3.320000	Average, Good	636	1	Pizza Place	Indian Restaurant	Hot
43	28.643320	3.287500	Average, Good, Poor, Very Good	2570	1	Indian Restaurant	Hotel	Host
46	28.573241	3.225000	Average, Good, Poor	1106	1	Indian Restaurant	Train Station	Mark
47	28.681582	3.046875	Average, Good, Poor	1224	1	Market	Indian Restaurant	Flow Sh
49	28.602169	2.900000	Average	7	1	Indian Restaurant	Italian Restaurant	G Cour
55	28.617102	4.200000	Very Good	3010	1	Indian Restaurant	Women's Store	Fish Chi Sh
61	28.668181	3.400000	Average	33	1	Pizza Place	Indian Restaurant	Ice Crea Sh

				973	1	Snack Place	Indian Restaurant	Shoppi M
66	28.699373	3.252174	Average, Good					
71	28.641003	3.650000	Average, Good	367	1	Indian Restaurant	Hostel	Socc Stadiu
76	28.576785	3.200000	Average, Good	143	1	Indian Restaurant	Train Station	Northea Indi Restaura

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Mo Commo Ven
77	28.631728	3.060714	Average, Good, Poor, Very Good	1650	1	Indian Restaurant	Shopping Mall	Mark
84	28.630942	3.122000	Average, Good, Poor, Very Good	1738	1	Indian Restaurant	Pizza Place	Indi Swe Sh
85	28.648885	3.561111	Average, Good, Very Good	7411	1	Indian Restaurant	Mosque	Fl Mark
92	28.584294	3.100000	Average	35	1	Indian Restaurant	Ice Cream Shop	Bake
97	28.662972	3.533333	Average, Very Good	293	1	Indian Restaurant	Moving Target	Vegetari / Veg Restaura
98	28.651527	3.490909	Average, Good, Very Good	3222	1	Indian Restaurant	Pizza Place	Pla
108	28.563827	3.800000	Good, Very Good	1092	1	Indian Restaurant	Market	Ca
113	28.541242	2.984615	Average	817	1	Indian Restaurant	Pizza Place	Bake
116	28.486576	2.950000	Average	8	1	Indian Restaurant	Furniture / Home Store	A Museu
118	28.646549	3.200000	Average	20	1	Restaurant	Indian Restaurant	Hot
126	28.602860	2.973214	Average, Good, Poor	1831	1	Pizza Place	Indian Restaurant	Gym Fitne Cent
133	28.708185	3.344444	Average, Good, Very Good	568	1	Indian Restaurant	Park	Chine Restaura
138	28.556145	3.040909		637	1			
140	28.627959	3.004167	Average, Good, Poor	326	1			A v e r
144	28.591092	3.200000	Average	993	1			

						Indian Restaurant	Pizza Place	Groce Sto
			ood, Poor					
			Average, Very Good			Pizza Place	Snack Place	Ca
						Indian Restaurant	Garden	BBQ Joi
						Pizza Place	Gaming Cafe	B
155	28.669160	3.148214	Average, Good, Poor	2735	1	Pizza Place	Sandwich Place	Mark

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Mo Commo Ven
159	28.613748	3.900000	Average, Excellent	2313	1	Pool	History Museum	Museu
164	28.668055	3.393333	Average, Excellent, Good, Very Good	4670	1	Garden Center	Convenience Store	Indi Restaura
198	28.636712	3.023529	Average, Poor	185	1	Skating Rink	Park	Multipl
203	28.601187	3.633333	Average, Good	1018	1	Café	Coffee Shop	Chine Restaura
208	28.562469	2.971429	Average, Good, Poor	486	1	Café	Indian Restaurant	Pla
209	28.631362	3.537500	Average, Good	1666	1	Indian Restaurant	Bakery	Asi Restaura
222	28.628988	3.260000	Average, Good, Poor	239	1	Indian Restaurant	Pizza Place	Coff Sh

In [38]:
```python
## Cluster 3
New_Delhi_merged.loc[New_Delhi_merged['Cluster Labels'] == 2, New_Delhi_merged
.columns[[1] + list(range(5, New_Delhi_merged.shape[1]))]]
```

Out[38]:

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd M Comm Ven
3	28.553077	3.200000	Average	59	2	Hotel	Airport Terminal	Airp Loun
10	28.554807	3.000000	Average	4	2	Hotel	Coffee Shop	Indi Restaur
12	28.641698	3.050000	Average	17	2	Hostel	Hotel	Indi Restaur
19	28.548827	2.700000	Average	9	2	Hotel	Accessories Store	Itali Restaur
25	28.495624	2.700000	Average	23	2	Indian Restaurant	Luggage Store	Japane Restaur
35	28.590297	3.350000	Average, Good	127	2	Hotel	Pizza Place	Liq St
56	28.570246	4.050000	Average, Excellent	1949	2	Hotel	Café	Sculpt Gard
60	28.665829	4.000000	Very Good	756	2	Hotel	Asian Restaurant	Indi Restaur
69	28.550327	3.300000	Average	30	2	Hotel	Indian Restaurant	Hotel
70	28.590654	3.550000	Average, Good	302	2	Hotel	Restaurant	Indi Restaur
74	28.621267	3.416667	Average, Good	475	2	Hotel	Indian Restaurant	S
83	28.552895	3.300000	Average	15	2	Hotel	Indian Restaurant	Hotel
111	28.618772	3.666667	Average, Good, Very Good	725	2	Hotel	Indian Restaurant	Restaur
112	28.552036	3.500000	Good	26	2	Hotel	Indian Restaurant	Hotel
119	28.545033	2.960000	Average, Good	259	2	Hotel	Indian Restaurant	Sh St
125	28.627715	3.125000	Average, Good	171	2	Restaurant	Food Truck	Ho
128	28.608252	2.945000	Average, Good	406	2	Hotel	Women's Store	Fis Ch Sh
148	28.642402	3.155652						

Average, Good	2177	2	Coffee Shop	Shopping Mall	Do Sh
Average, Good, Poor	1481	2	Pizza Place	Ice Cream Shop	BBQ Jo

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd M Comm Ven
162	28.725814	3.050000	Average	50	2	Café	Hotel	Wome St
167	28.599082	2.900000	Average	9	2	Women's Store	Racetrack	Fo
168	28.543814	3.950000	Average, Excellent, Good, Very Good	1225	2	Hotel	Spa	Indi Restaur
173	28.714176	3.352083	Average, Good, Poor, Very Good	4514	2	Department Store	Indian Restaurant	Light R Stati
188	28.707685	3.168182	Average, Good, Very Good	1668	2	Pizza Place	Convenience Store	Coff Sh
196	28.680905	3.320000	Average, Good	286	2	Breakfast Spot	Fast Food Restaurant	Chine Restaur
204	28.597038	3.533333	Average, Good, Very Good	902	2	Nightclub	Indian Restaurant	Ho
212	28.592147	3.350000	Average, Good	189	2	Indian Restaurant	Hotel	Chine Restaur
216	28.594859	3.800000	Good, Very Good	287	2	Indian Restaurant	Hotel	C
219	28.638846	3.048148	Average, Good	290	2	Fast Food Restaurant	Indian Restaurant	Wome St
234	28.630044	2.750000	Average, Poor	238	2	Fast Food Restaurant	Indian Restaurant	Sandw Pla
235	28.652978	3.500000	Good	178	2	Fast Food Restaurant	Café	Restaur
237	28.550257	3.220000	Average, Good	77	2	Hotel	Indian Restaurant	Hotel

In [39]:
```
## Examine Clusters

## Cluster 4
New_Delhi_merged.loc[New_Delhi_merged['Cluster Labels'] ==3 , New_Delhi_merged
.columns[[1] + list(range(5, New_Delhi_merged.shape[1]))]]
```

Out[39]:

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Mo Commo Venu
6	28.527088	3.117391	Average, Good, Poor	1012	3	New American Restaurant	Coffee Shop	Steakhous
7	28.541298	3.425000	Average, Good, Very Good	2460	3	Coffee Shop	Shopping Mall	Fast Foo Restaura
20	28.568193	2.755556	Average, Poor	339	3	Lounge	Breakfast Spot	Caf
27	28.716874	3.400000	Average	134	3	Department Store	Light Rail Station	Shoppin Ma
29	28.681233	3.300000	Average, Good, Very Good	769	3	Coffee Shop	Burger Joint	Light Ra Statio
...	...	...	...	...	...	...	...	.
223	28.619954	2.905714	Average, Poor	242	3	ATM	Indian Restaurant	Fish Chips Sho
226	28.525054	3.322222	Average, Good	1940	3	Pizza Place	Chinese Restaurant	B
227	28.559704	3.278261	Average, Good, Very Good	1043	3	Café	Restaurant	Fast Foo Restaura
231	28.637492	3.062264	Average, Good, Poor	1253	3	Pizza Place	Fast Food Restaurant	Ice Crea Sho
236	28.648177	3.675000	Average, Good, Very Good	876	3	Pizza Place	Hotel	Electronic Stor

85 rows × 15 columns

In [40]:
```python
## Examine Clusters

## Cluster 5
New_Delhi_merged.loc[New_Delhi_merged['Cluster Labels'] == 4, New_Delhi_merged.columns[[1] + list(range(5, New_Delhi_merged.shape[1]))]]
```

Out[40]:

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd M Comm Ven
1	28.537063	3.292308	Average, Good, Poor, Very Good	1560	4	Café	Indian Restaurant	Pa Restaur
8	28.555599	3.800000	Average, Very Good	2411	4	Café	Stadium	Coffee Sh
9	28.659870	3.281481	Average, Good	1309	4	Café	ATM	Burger Jo
17	28.557846	3.220000	Average, Good, Poor	1875	4	Café	Restaurant	Pizza Pla
21	28.589797	3.085714	Average, Good, Poor	1617	4	African Restaurant	Park	T
28	28.650254	3.166667	Average, Good	1217	4	Fast Food Restaurant	Café	Indi Restaur
30	28.561898	3.100000	Average, Good	1514	4	Café	Nightclub	Pharma
45	28.696802	3.296296	Average, Excellent, Good, Poor, Very Good	19479	4	Café	Restaurant	Pizza Pla
58	28.514237	4.200000	Very Good	1561	4	Asian Restaurant	Café	Itali Restaur
79	28.631930	3.300000	Average, Good	168	4	Fast Food Restaurant	Clothing Store	Performi Arts Ven
82	28.548371	3.137500	Average, Good, Poor	609	4	Café	Indian Restaurant	Shopp M
86	28.624632	3.315217	Average, Excellent, Good, Poor, Very Good	4011	4	Café	Park	Bak
89	28.539003	3.150000	Average, Good, Poor	893	4	Pizza Place	Soccer Field	Soc Stadi
91	28.556503	3.400000	Average, Good	346	4	Café	Restaurant	Pizza Pla

100	28.556869	4.500000	Excellent	524	4	Café	Indian Restaurant	Mar
102	28.600492	3.802326	Average, Excellent, Good, Very Good	28463	4	Café	Coffee Shop	

	Lat	Agg_Rating	Comments	No_of_Votes	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd M Comm Ven
109	28.689561	3.311111	Average, Very Good	903	4	Department Store	Café	Pharma
127	28.619410	3.134615	Average, Good, Poor	1648	4	Café	Wings Joint	Ice Cre Sh
135	28.579641	3.180000	Average, Good	202	4	Pizza Place	Arcade	South Ind Restaur
143	28.564494	3.140625	Average, Good, Very Good	1548	4	Café	Pharmacy	Loun
146	28.535040	3.175000	Average, Good	60	4	NaN	NaN	N
170	28.643757	3.575000	Average, Good	2879	4	Pizza Place	Fast Food Restaurant	Ho
171	28.639604	3.056410	Average, Good, Poor, Very Good	5168	4	Pizza Place	Food & Drink Shop	Sandw Pla
174	28.550802	3.250000	Average, Good	34	4	Hotel	Indian Restaurant	Hotel
177	28.511482	2.750000	Average, Poor	107	4	Asian Restaurant	Indian Restaurant	P
179	28.572117	3.871429	Average,			Coffee		Convenien
181	28.571849	3.316667	Good, Very Good	1871	4	Shop	Multiplex	St
189	28.620715	3.880000	Average, Good	472	4	Fast Food Restaurant	Pizza Place	Indi Restaur
202	28.646593	3.280952	Average, Good, Very Good	626	4	Hotel	Indian Restaurant	S
207	28.625445	3.600000	Average, Good, Very Good	1624	4	Indian Restaurant	Train Station	Food Tru
213	28.623619	3.466667	Average,	843	4	Indian		Itali
228	28.596073	3.052941	Good, Very Good	1141	4			Average,

			Good			Restaurant	Hotel	Restaur
			Average, Good			Hotel	Indian Restaurant	S
						ATM	Garden Center	Gaming C
229	28.692519	3.606452	Average, Excellent, Good, Very Good	12271	4	Café	American Restaurant	Bak

1.11.1 Conclusion

- Chanakyapuri, Pitampura, Safdarjung are some of the best neighborhoods for Chinese cuisine. •
- Pancsheel park, Nehru place have the best Chinese Resturant.
- Cannaught place, Rajouri garden, Malviya nagar are the best places for edible person.
- Greater kailash, Feroze shah road, Saket have best resturants in New Delhi.
- #### Cluster 1: It is most recommended for Indian Restaurants.
- #### Cluster 2: It is most recommended for Hotels and nightclub.
- #### Cluster 3 and Cluster 5: It is most recom
- #### Cluster 4: It is most recommended for the cafe and pizza.