

The Battle of Neighborhoods

PROJECT REPORT

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Introduction/Business Problem

The objective of this project is to apply Data Science techniques and select a neighborhood in the city of Mississauga, Canada, which is well suited to open a new Pizza Restaurant.

Target audience/potential stakeholders for this project are:

- Entrepreneurs interested in launching new Pizza business;
- Established Pizza businesses looking to expand their brand in Mississauga.

Data

For the execution of this project, the following data sources will be used:

List of Mississauga neighborhoods. This list will be retrieved from Wikipedia page (https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_L), using web scraping techniques.



WIKIPEDIA
The Free Encyclopedia

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia
Wikipedia store

Interaction

Help
About Wikipedia
Community portal
Recent changes
Contact page

Tools

What links here
Related changes
Upload file
Special pages
Permanent link
Page information
Wikidata item
Cite this page

Print/export

Create a book
Download as PDF
Printable version

Not logged in | Talk | Contributions | Create account | Log in

Article | **Talk** | Read | Edit | View history | Search Wikipedia

List of postal codes of Canada: L

From Wikipedia, the free encyclopedia

This is a list of **postal codes in Canada** where the first letter is L. Postal codes beginning with L are located within the Canadian province of **Ontario**. Only the first three characters are listed, corresponding to the Forward Sortation Area.

Canada Post provides a free postal code look-up tool on its website,^[1] via its **smartphone applications** for **iPhone** and **BlackBerry**,^[2] and sells hard-copy directories and **CD-ROMs**. Many vendors also sell validation tools, which allow customers to properly match addresses and postal codes. Hard-copy directories can also be consulted in all post offices, and some libraries.

Central Ontario - 163 FSAs [edit]

Urban [edit]

L1A	L2A	L3A	L4A	L5A	L6A	L7A	L8A	L9A
Port Hope	Fort Erie	<i>Not assigned</i>	Stouffville	Mississauga (Mississauga Valley / East Cooksville)	Maple	Brampton West	<i>Not assigned</i>	Hamilton (Crerar / Bruleville / Hill Park / Inch Park / Centremount / Balfour / Greeningdon / Jerome)
L1B	L2B	L3B	L4B	L5B	L6B	L7B	L8B	L9B
Bowmanville East	<i>Not assigned</i>	Welland East	Richmond Hill Southeast	Mississauga (West Cooksville /	Markham East Cornell,	King City	Waterdown	Hamilton (Barnstown / West Chappel /

Geographical coordinates of the neighborhoods. This data will be retrieved using *OpenStreetMap Nominatim* via *geopy* library.

```
# install geopy and import Nominatim for working with geo coordinates
!conda install -c conda-forge geopy --yes
from geopy.geocoders import Nominatim
```

...

```
geo=geocator.geocode("Mississauga Valley, Mississauga, ON")
print(geo.latitude)
print(geo.longitude)
```

43.5943679

-79.6237667


Foursquare location data. This data will be retrieved using Foursquare API. We will be using *Explore* function to retrieve nearby venues, given geographic coordinates of the neighborhoods.

```
url = 'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={}&v={}&ll={},{}&radius={}&limit={}'.format(
    CLIENT_ID, CLIENT_SECRET, VERSION, geo.latitude, geo.longitude, 500, 100)
results = requests.get(url).json()
results
```

```
{'meta': {'code': 200, 'requestId': '5c31733d6a60713c2bd9d26b'},
 'response': {'headerLocation': 'Cooksville',
 'headerFullLocation': 'Cooksville, Mississauga',
 'headerLocationGranularity': 'neighborhood',
 'totalResults': 11,
 'suggestedBounds': {'ne': {'lat': 43.598867904500004,
 'lng': -79.6175648820002},
 'sw': {'lat': 43.5898678955, 'lng': -79.62996851799981}},
 'groups': [{'type': 'Recommended Places',
 'name': 'recommended',
 'items': [{'reasons': {'count': 0,
 'items': [{'summary': 'This spot is popular',
 'type': 'general',
 'reasonName': 'globalInteractionReason'}]}],
 'venue': {'id': '4b0a06b6f964a5202f2123e3',
 'name': 'Mississauga Valley Park',
 'location': {'address': '1275 Mississauga Valley Blvd',
 'lat': 43.596026195380325,
 'lng': -79.62405681610107,
 'labeledLatLngs': [{'label': 'display',
 'lat': 43.596026195380325,
 'lng': -79.62405681610107}]},
 'distance': 186,
 'postalCode': 'L5A 3S8',
 'cc': 'CA',
 'city': 'Mississauga',
 'state': 'ON',
 'country': 'Canada',
 'formattedAddress': ['1275 Mississauga Valley Blvd',
```

Population Age by Postal Code. This information will be retrieved from Statistics Canada website (<https://www.statcan.gc.ca/eng/start>) from the results of the 2016 Census, using web scraping techniques and used to provide insight into demographic makeup of the candidate neighborhoods.

[Français](#)



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Analysis

Reference

Geography

Census program

Surveys and statistical programs

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[Home](#) → [Census Program](#) → [Data products, 2016 Census](#) → [Data tables](#)
→ Age (in Single Years) and Average Age (127) and Sex (3) for the Population of Canada and Forward Sortation Areas, 2016 Ce...

Data tables, 2016 Census

Age (in Single Years) and Average Age (127) and Sex (3) for the Population of Canada and Forward Sortation Areas, 2016 Census - 100% Data

About

Data table

Map

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Select data categories for this table

Geography → [Geographic index](#)

L5J

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[Data quality](#)

Age (in single years) and average age (127)	Sex (3)		
	Total - Sex	Male	Female
Total - Age	28,090	13,595	14,490
0 to 14 years	4,275	2,190	2,080
0 to 4 years	1,335	700	640
Under 1 year	260	135	125
1	260	130	125
2	280	140	135
3	265	145	115
4	275	140	140

Methodology

TBD

Results

TBD

Observations and Recommendations

TBD

Conclusion

TBD

References

1. Wikipedia contributors. List of postal codes of Canada: L. Wikipedia, The Free Encyclopedia. November 28, 2018, 17:26 UTC. Available at: [https://en.wikipedia.org/w/index.php?title=List of postal codes of Canada: L&oldid=871056773](https://en.wikipedia.org/w/index.php?title=List_of_postal_codes_of_Canada:L&oldid=871056773). Accessed January 6, 2019.
2. Statistics Canada. Census Program - Data products, 2016 Census - Data tables. Age (in Single Years) and Average Age (127) and Sex (3) for the Population of Canada and Forward Sortation Areas, 2016 Census - 100% Data. Available at: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?TABID=6&LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=AoA&GID=1256482&GK=9&GRP=1&PID=109790&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2016&THEME=115&VID=0&VNAMEE=&VNAMEF=&D1=0&D2=0&D3=0&D4=0&D5=0&D6=0>. Accessed January 6, 2019.