

Project: NBA Teams & their location on Map!

- Getting NBA Teams List through an API
- from nba_api.stats.static import teams : (Module and function)
- <https://pypi.org/project/nba-api/> : (NBA Page)
- <https://stats.nba.com> : (NBA Stats)
- nba_teams = teams.get_teams() : (Method)

Lets Get Started

- Importing the Module
- Using the get_teams() method function.
- The response will be the data to analyze.

```
In [28]: from nba_api.stats.static import teams
# https://pypi.org/project/nba-api/
nba = teams.get_teams()
nba

Out[28]: [{'id': 1610612737,
  'full_name': 'Atlanta Hawks',
  'abbreviation': 'ATL',
  'nickname': 'Hawks',
  'city': 'Atlanta',
  'state': 'Georgia',
  'year_founded': 1949},
{'id': 1610612738,
  'full_name': 'Boston Celtics',
  'abbreviation': 'BOS',
  'nickname': 'Celtics',
  'city': 'Boston',
  'state': 'Massachusetts',
  'year_founded': 1946},
{'id': 1610612739,
  'full_name': 'Cleveland Cavaliers',
  'abbreviation': 'CLE',
  'nickname': 'Cavaliers',
  'city': 'Cleveland',
  'state': 'Ohio',
  'year_founded': 1970},
{'id': 1610612740,
  'full_name': 'New Orleans Pelicans',
  'abbreviation': 'NOP',
  'nickname': 'Pelicans',
  'city': 'New Orleans',
  'state': 'Louisiana',
  'year_founded': 2002},
{'id': 1610612741,
  'full_name': 'Chicago Bulls',
  'abbreviation': 'CHI',
  'nickname': 'Bulls',
  'city': 'Chicago',
  'state': 'Illinois',
  'year_founded': 1966},
{'id': 1610612742,
  'full_name': 'Dallas Mavericks',
  'abbreviation': 'DAL',
  'nickname': 'Mavericks',
  'city': 'Dallas',
  'state': 'Texas',
  'year_founded': 1980},
{'id': 1610612743,
  'full_name': 'Denver Nuggets',
  'abbreviation': 'DEN',
  'nickname': 'Nuggets',
  'city': 'Denver',
  'state': 'Colorado',
  'year_founded': 1976},
{'id': 1610612744,
  'full_name': 'Golden State Warriors',
  'abbreviation': 'GSW',
  'nickname': 'Warriors',
  'city': 'Golden State',
  'state': 'California',
  'year_founded': 1946},
{'id': 1610612745,
  'full_name': 'Houston Rockets',
  'abbreviation': 'HOU',
  'nickname': 'Rockets',
  'city': 'Houston',
  'state': 'Texas',
  'year_founded': 1967},
{'id': 1610612746,
  'full_name': 'Los Angeles Clippers',
  'abbreviation': 'LAC',
  'nickname': 'Clippers',
  'city': 'Los Angeles',
  'state': 'California',
  'year_founded': 1970},
{'id': 1610612747,
  'full_name': 'Los Angeles Lakers',
  'abbreviation': 'LAL',
  'nickname': 'Lakers',
  'city': 'Los Angeles',
  'state': 'California',
  'year_founded': 1946},
{'id': 1610612748,
  'full_name': 'Miami Heat',
  'abbreviation': 'MIA',
  'nickname': 'Heat',
  'city': 'Miami',
  'state': 'Florida',
  'year_founded': 1988},
{'id': 1610612749,
  'full_name': 'Milwaukee Bucks',
  'abbreviation': 'MIL',
  'nickname': 'Bucks',
  'city': 'Milwaukee',
  'state': 'Wisconsin',
  'year_founded': 1968},
{'id': 1610612750,
  'full_name': 'Minnesota Timberwolves',
  'abbreviation': 'MIN',
  'nickname': 'Timberwolves',
  'city': 'Minnesota',
  'state': 'Minnesota',
  'year_founded': 1989},
{'id': 1610612751,
  'full_name': 'Brooklyn Nets',
  'abbreviation': 'BKN',
  'nickname': 'Nets',
  'city': 'Brooklyn',
  'state': 'New York',
  'year_founded': 1976},
{'id': 1610612752,
  'full_name': 'New York Knicks',
  'abbreviation': 'NYK',
  'nickname': 'Knicks',
  'city': 'New York',
  'state': 'New York',
  'year_founded': 1946},
{'id': 1610612753,
  'full_name': 'Orlando Magic',
  'abbreviation': 'ORL',
  'nickname': 'Magic',
  'city': 'Orlando',
  'state': 'Florida',
  'year_founded': 1989},
{'id': 1610612754,
  'full_name': 'Indiana Pacers',
  'abbreviation': 'IND',
  'nickname': 'Pacers',
  'city': 'Indiana',
  'state': 'Indiana',
  'year_founded': 1976},
{'id': 1610612755,
  'full_name': 'Philadelphia 76ers',
  'abbreviation': 'PHI',
  'nickname': '76ers',
  'city': 'Philadelphia',
  'state': 'Pennsylvania',
  'year_founded': 1949},
{'id': 1610612756,
  'full_name': 'Phoenix Suns',
  'abbreviation': 'PHX',
  'nickname': 'Suns',
  'city': 'Phoenix',
  'state': 'Arizona',
  'year_founded': 1968},
{'id': 1610612757,
  'full_name': 'Portland Trail Blazers',
  'abbreviation': 'POR',
  'nickname': 'Trail Blazers',
  'city': 'Portland',
  'state': 'Oregon',
  'year_founded': 1970},
{'id': 1610612758,
  'full_name': 'Sacramento Kings',
  'abbreviation': 'SAC',
  'nickname': 'Kings',
  'city': 'Sacramento',
  'state': 'California',
  'year_founded': 1948},
{'id': 1610612759,
  'full_name': 'San Antonio Spurs',
  'abbreviation': 'SAS',
  'nickname': 'Spurs',
  'city': 'San Antonio',
  'state': 'Texas',
  'year_founded': 1976},
{'id': 1610612760,
  'full_name': 'Oklahoma City Thunder',
  'abbreviation': 'OKC',
  'nickname': 'Thunder',
  'city': 'Oklahoma City',
  'state': 'Oklahoma',
  'year_founded': 1967},
{'id': 1610612761,
  'full_name': 'Toronto Raptors',
  'abbreviation': 'TOR',
  'nickname': 'Raptors',
  'city': 'Toronto',
  'state': 'Ontario',
  'year_founded': 1995},
{'id': 1610612762,
  'full_name': 'Utah Jazz',
  'abbreviation': 'UTA',
  'nickname': 'Jazz',
  'city': 'Utah',
  'state': 'Utah',
  'year_founded': 1974},
{'id': 1610612763,
  'full_name': 'Memphis Grizzlies',
  'abbreviation': 'MEM',
  'nickname': 'Grizzlies',
  'city': 'Memphis',
  'state': 'Tennessee',
  'year_founded': 1995},
{'id': 1610612764,
  'full_name': 'Washington Wizards',
  'abbreviation': 'WAS',
  'nickname': 'Wizards',
  'city': 'Washington',
  'state': 'District of Columbia',
  'year_founded': 1961},
{'id': 1610612765,
  'full_name': 'Detroit Pistons',
  'abbreviation': 'DET',
  'nickname': 'Pistons',
  'city': 'Detroit',
  'state': 'Michigan',
  'year_founded': 1948},
{'id': 1610612766,
  'full_name': 'Charlotte Hornets',
  'abbreviation': 'CHA',
  'nickname': 'Hornets',
  'city': 'Charlotte',
  'state': 'North Carolina',
  'year_founded': 1988}]

Checking and Extracting keys from the dictionary : Heading of the Columns
```

```
In [29]: nba_keys = list(nba[0].keys())
nba_keys

Out[29]: ['id',
  'full_name',
  'abbreviation',
  'nickname',
  'city',
  'state',
  'year_founded']

Extracting the Dictionary values in the list from # nba list to a new list in the following code.

In [30]: response= [nba_keys]
def rows(team):
    global response
    for a in range(len(team)):
        nba_keys1 = []
        for i in range(len(team[a])):
            nba_keys1.append(team[a][i])
        response.append(nba_keys1)
    return response
nba_team_list= rows(nba)
nba_team_list

Out[30]: [['id',
  'full_name',
  'abbreviation',
  'nickname',
  'city',
  'state',
  'year_founded'],
[1610612737, 'Atlanta Hawks', 'ATL', 'Hawks', 'Atlanta', 'Georgia', 1949],
[1610612738, 'Boston Celtics', 'BOS', 'Celtics', 'Boston', 'Massachusetts', 1946],
[1610612739, 'Cleveland Cavaliers', 'CLE', 'Cavaliers', 'Cleveland', 'Ohio', 1970],
[1610612740, 'New Orleans Pelicans', 'NOP', 'Pelicans', 'New Orleans', 'Louisiana', 2002],
[1610612741, 'Chicago Bulls', 'CHI', 'Bulls', 'Chicago', 'Illinois', 1966],
[1610612742, 'Dallas Mavericks', 'DAL', 'Mavericks', 'Dallas', 'Texas', 1980],
[1610612743, 'Denver Nuggets', 'DEN', 'Nuggets', 'Denver', 'Colorado', 1976],
[1610612744, 'Golden State Warriors', 'GSW', 'Warriors', 'Golden State', 'California', 1946],
[1610612745, 'Houston Rockets', 'HOU', 'Rockets', 'Houston', 'Texas', 1967],
[1610612746, 'Los Angeles Clippers', 'LAC', 'Clippers', 'Los Angeles', 'California', 1970],
[1610612747, 'Los Angeles Lakers', 'LAL', 'Lakers', 'Los Angeles', 'California', 1946],
[1610612748, 'Miami Heat', 'MIA', 'Heat', 'Miami', 'Florida', 1988],
[1610612749, 'Milwaukee Bucks', 'MIL', 'Bucks', 'Milwaukee', 'Wisconsin', 1968],
[1610612750, 'Minnesota Timberwolves', 'MIN', 'Timberwolves', 'Minnesota', 'Minnesota', 1989],
[1610612751, 'Brooklyn Nets', 'BKN', 'Nets', 'Brooklyn', 'New York', 1976],
[1610612752, 'New York Knicks', 'NYK', 'Knicks', 'New York', 'New York', 1946],
[1610612753, 'Orlando Magic', 'ORL', 'Magic', 'Orlando', 'Florida', 1989],
[1610612754, 'Indiana Pacers', 'IND', 'Pacers', 'Indiana', 'Indiana', 1976],
[1610612755, 'Philadelphia 76ers', 'PHI', '76ers', 'Philadelphia', 'Pennsylvania', 1949],
[1610612756, 'Phoenix Suns', 'PHX', 'Suns', 'Phoenix', 'Arizona', 1968],
[1610612757, 'Portland Trail Blazers', 'POR', 'Trail Blazers', 'Portland', 'Oregon', 1970],
[1610612758, 'Sacramento Kings', 'SAC', 'Kings', 'Sacramento', 'California', 1948],
[1610612759, 'San Antonio Spurs', 'SAS', 'Spurs', 'San Antonio', 'Texas', 1976],
[1610612760, 'Oklahoma City Thunder', 'OKC', 'Thunder', 'Oklahoma City', 'Oklahoma', 1967],
[1610612761, 'Toronto Raptors', 'TOR', 'Raptors', 'Toronto', 'Ontario', 1995],
[1610612762, 'Utah Jazz', 'UTA', 'Jazz', 'Utah', 'Utah', 1974],
[1610612763, 'Memphis Grizzlies', 'MEM', 'Grizzlies', 'Memphis', 'Tennessee', 1995],
[1610612764, 'Washington Wizards', 'WAS', 'Wizards', 'Washington', 'District of Columbia', 1961],
[1610612765, 'Detroit Pistons', 'DET', 'Pistons', 'Detroit', 'Michigan', 1948],
[1610612766, 'Charlotte Hornets', 'CHA', 'Hornets', 'Charlotte', 'North Carolina', 1988]]

Checking the value to write over the new file must be string data type. String data type value can be written in csv file.

In [31]: for rows in range(len(nba_team_list)):
    for value in range(len(nba_team_list[rows])):
        point1 = f"{nba_team_list[rows][value]},"
# (type(point1))

str

Out[31]: str

Here below is the csv file newly created with required response data.

Why csv?

So that the data can be easily used as a Data Source for Data Visualisation through Tableau/ Tableau Public

In [ ]: with open("NBA5.5.csv",mode="x") as file:

    for list_value in range(len(nba_team_list)):
        for dict_value in range(0,7):
            point1= str(nba_team_list[list_value][dict_value]) + ","
            point2 +=point1
            file.write(point2 + "\n")

Here I am Removing the files I created while simulating for the required response.

In [ ]: import os
os.remove("NBA5.4.csv")
```

The Above coding program is a self made program to understand and make a replica of the the working of pandas, creating data frames.

Next Part is Data Visualisation