

Working with APIs and JSON (part 1)

```
In [1]: 1 api_key = "api_key=052c82333bcc288e8634c76e06472292"  
        2 api_key
```

```
Out[1]: 'api_key=052c82333bcc288e8634c76e06472292'
```

```
In [2]: 1 import pandas as pd  
        2 import requests  
        3 pd.options.display.max_columns = 30
```

```
In [3]: 1 movie_id = 140607
```

```
In [4]: 1 movie_api = "https://api.themoviedb.org/3/movie/{}?"
```

```
In [5]: 1 url = movie_api.format(movie_id) + api_key
```

```
In [6]: 1 url
```

```
Out[6]: 'https://api.themoviedb.org/3/movie/140607?api_key=052c82333bcc288e8634c76e06  
472292'
```

```
In [7]: 1 r = requests.get(url)  
        2 r
```

```
Out[7]: <Response [200]>
```

```
In [8]: 1 data = r.json()
```

In [9]: 1 data

```
Out[9]: {'adult': False,
'backdrop_path': '/k6EOrckWFuz7I4z4wiRwz8zsj4H.jpg',
'belongs_to_collection': {'id': 10,
'name': 'Star Wars Collection',
'poster_path': '/gq5Wi7i4SF3lo4HHkJasDV95xI9.jpg',
'backdrop_path': '/d8duYyyC9J5T825Hg7grmaabfxQ.jpg'},
'budget': 245000000,
'genres': [{'id': 12, 'name': 'Adventure'},
{'id': 28, 'name': 'Action'},
{'id': 878, 'name': 'Science Fiction'},
{'id': 14, 'name': 'Fantasy'}],
'homepage': 'http://www.starwars.com/films/star-wars-episode-vii',
'id': 140607,
'imdb_id': 'tt2488496',
'original_language': 'en',
'original_title': 'Star Wars: The Force Awakens',
'overview': 'Thirty years after defeating the Galactic Empire, Han Solo and his allies face a new threat from the evil Kylo Ren and his army of Stormtroopers.',
'popularity': 59.006,
'poster_path': '/wqnLdwVXoBjKibFRR5U3y0aDUhs.jpg',
'production_companies': [{'id': 1,
'logo_path': '/o86DbpburjxrqAzEDhXZcyE8pDb.png',
'name': 'Lucasfilm',
'origin_country': 'US'},
{'id': 11461,
'logo_path': '/p9FoEt5shEKRWRKVIlvFaEmRnun.png',
'name': 'Bad Robot',
'origin_country': 'US'}],
'production_countries': [{'iso_3166_1': 'US',
'name': 'United States of America'}],
'release_date': '2015-12-15',
'revenue': 2068223624,
'runtime': 136,
'spoken_languages': [{'english_name': 'English',
'iso_639_1': 'en',
'name': 'English'}],
'status': 'Released',
'tagline': 'Every generation has a story.',
'title': 'Star Wars: The Force Awakens',
'video': False,
'vote_average': 7.305,
'vote_count': 17752}
```

In [10]: 1 type(data)

Out[10]: dict

In [11]: 1 pd.Series(data)

```
Out[11]: adult False
backdrop_path /k6EOrckWFuz7I4z4wiRwz8zs4H.jpg
belongs_to_collection {'id': 10, 'name': 'Star Wars Collection', 'po...
budget 245000000
genres [{'id': 12, 'name': 'Adventure'}, {'id': 28, '...
homepage http://www.starwars.com/films/star-wars-episod... (h
http://www.starwars.com/films/star-wars-episod...)
id 140607
imdb_id tt2488496
original_language en
original_title Star Wars: The Force Awakens
overview Thirty years after defeating the Galactic Empi...
popularity 59.006
poster_path /wqnLdwVXoBjKibFRR5U3y0aDUhs.jpg
production_companies [{'id': 1, 'logo_path': '/o86DbpburjxrqAzEDhXZ...
production_countries [{'iso_3166_1': 'US', 'name': 'United States o...
release_date 2015-12-15
revenue 2068223624
runtime 136
spoken_languages [{'english_name': 'English', 'iso_639_1': 'en'...
status Released
tagline Every generation has a story.
title Star Wars: The Force Awakens
video False
vote_average 7.305
vote_count 17752
dtype: object
```

In [12]: 1 pd.Series(data).to_frame().T

```
Out[12]:
```

	adult	backdrop_path	belongs_to_collection	budget	genres
0	False	/k6EOrckWFuz7I4z4wiRwz8zs4H.jpg	{'id': 10, 'name': 'Star Wars Collection', 'po...	245000000	[{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Science Fiction'}]

In [13]: 1 pd.json_normalize(data, sep = "_")

```
Out[13]:
```

	adult	backdrop_path	budget	genres	homepage
0	False	/k6EOrckWFuz7I4z4wiRwz8zs4H.jpg	245000000	[{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Science Fiction'}]	http://www.starwars.com/films/star-wars-episod...

In [14]: 1 `pd.json_normalize(data = data, record_path = "genres", meta = "title")`

Out[14]:

	id	name	title
0	12	Adventure	Star Wars: The Force Awakens
1	28	Action	Star Wars: The Force Awakens
2	878	Science Fiction	Star Wars: The Force Awakens
3	14	Fantasy	Star Wars: The Force Awakens

In [16]: 1 `pd.json_normalize(data = data, record_path = "production_companies", meta`

Out[16]:

	id	logo_path	name	origin_country	title
0	1	/o86DbpburjxrqAzEDhXZcyE8pDb.png	Lucasfilm	US	Star Wars: The Force Awakens
1	11461	/p9FoEt5shEKRWRKVIlvFaEmRnun.png	Bad Robot	US	Star Wars: The Force Awakens

Working with APIs and JSON (Part 2)

In [21]: 1 `import pandas as pd`
 2 `import requests`
 3 `pd.options.display.max_columns = 30`

In [22]: 1 `discover_api = "https://api.themoviedb.org/3/discover/movie?"`

In [23]: 1 `query = "&primary_release_date.get=2020-01-01&primary_release_date.lte=202`

In [24]: 1 `url = discover_api+api_key+query`

In [26]: 1 `data = requests.get(url).json()`

1	data
---	------

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In [28]:

```
1 pd.DataFrame(data)
```

Out[28]:

	page	results	total_pages	total_results
0	1	{'adult': False, 'backdrop_path': '/o0s4XsEDfD...	29249	584979
1	1	{'adult': False, 'backdrop_path': '/sKK5bbQm15...	29249	584979
2	1	{'adult': False, 'backdrop_path': '/a7sAqMKv5t...	29249	584979
3	1	{'adult': False, 'backdrop_path': '/rzdPqYx7Um...	29249	584979
4	1	{'adult': False, 'backdrop_path': '/mDfJG3LC3D...	29249	584979
5	1	{'adult': False, 'backdrop_path': '/chLZrgbUom...	29249	584979
6	1	{'adult': False, 'backdrop_path': '/hziiv14OpD...	29249	584979
7	1	{'adult': False, 'backdrop_path': '/iYdgEUE2W2...	29249	584979
8	1	{'adult': False, 'backdrop_path': '/urDWNffjwm...	29249	584979
9	1	{'adult': False, 'backdrop_path': '/ryQbb26wl1...	29249	584979
10	1	{'adult': False, 'backdrop_path': '/rshlQ6LfPR...	29249	584979
11	1	{'adult': False, 'backdrop_path': '/1stUlsjawR...	29249	584979
12	1	{'adult': False, 'backdrop_path': '/eSdpZZQubP...	29249	584979
13	1	{'adult': False, 'backdrop_path': '/sO2VWeJ8qa...	29249	584979
14	1	{'adult': False, 'backdrop_path': '/5rrGVmRUuC...	29249	584979
15	1	{'adult': False, 'backdrop_path': '/ql4PnvKYKa...	29249	584979
16	1	{'adult': False, 'backdrop_path': '/bNTHSd3Uqq...	29249	584979
17	1	{'adult': False, 'backdrop_path': '/obKmfNexgL...	29249	584979
18	1	{'adult': False, 'backdrop_path': '/9ywa15OAiw...	29249	584979
19	1	{'adult': False, 'backdrop_path': '/utdSzHebU4...	29249	584979

In [29]: 1 pd.DataFrame(data['results'])

Out[29]:

	adult	backdrop_path	genre_ids	id	original_language	original_title
0	False	/o0s4XsEDfDlvt5pDRKjzXR4pp2.jpg	[28, 12, 14, 878]	19995	en	
1	False	/sKK5bbQm15jzbMRwCJmPBbv9trN.jpg	[12, 10751, 14]	411	en	Chronicle Narnia Lic W
2	False	/a7sAqMKv5tkAdMzFflhPqlBmQ9g.jpg	[878, 28, 12]	102899	en	An

Importing and Saving the Movies Dataset (Best Practice)

In [31]:

```

1 import pandas as pd
2 import requests
3 import json
4 pd.options.display.max_columns = 30

```

In [32]:

```

1 movie_id = [0, 299534, 19995, 140607, 299536, 597, 135397, 420818,
2             24428, 168259, 99861, 284054, 12445, 181808, 330457, 351286, 1094

```

In [35]: 1 basic_url = 'https://api.themoviedb.org/3/movie/{}?{}'

In [37]:

```

1 json_list = []
2 for movie in movie_id:
3     url = basic_url.format(movie, api_key)
4     r = requests.get(url)
5     if r.status_code != 200:
6         continue
7     else:
8         data = r.json()
9         json_list.append(data)
10 df = pd.DataFrame(json_list)

```

In [40]: 1 requests.get(basic_url.format(299534, api_key)).status_code

Out[40]: 200

In [41]:

1	df
---	----

Out[41]:

	adult	backdrop_path	belongs_to_collection	budget	genres
0	False	/7RyHsO4yDXtBv1zUU3mTpHeQ0d5.jpg	{'id': 86311, 'name': 'The Avengers Collection'...	356000000	[{'id': 12, 'name': 'Adventure'}, {'id': 878, ...
1	False	/8l37NtDffNV7AZIDa7uDvvqhovU.jpg	{'id': 87096, 'name': 'Avatar Collection', 'po...	237000000	[{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...
2	False	/k6EOckWFuz7l4z4wiRwz8zsj4H.jpg	{'id': 10, 'name': 'Star Wars Collection', 'po...	245000000	[{'id': 12, 'name': 'Adventure'}, {'id': 28, '...
3	False	/mDfJG3LC3Dqb67AZ52x3Z0jU0uB.jpg	{'id': 86311, 'name': 'The Avengers Collection'...	300000000	[{'id': 12, 'name': 'Adventure'}, {'id': 28, '...
4	False	/rzdPqYx7Um4FUZeD8wpXqjAUcEm.jpg	None	200000000	[{'id': 18, 'name': 'Drama'}, {'id': 10749, 'n...
5	False	/aIGIYJTyoKEVUmEd3z5x6diYsFx.jpg	{'id': 328, 'name': 'Jurassic Park Collection'...	150000000	[{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...
6	False	/1TUg5pO1VZ4B0Q1amk3OIXvlpXV.jpg	{'id': 762512, 'name': 'The Lion King (Reboot)...	260000000	[{'id': 12, 'name': 'Adventure'}, {'id': 18, '...
7	False	/9BBTo63ANSmhC4e6r62OJFuK2GL.jpg	{'id': 86311, 'name': 'The Avengers Collection'...	220000000	[{'id': 878, 'name': 'Science Fiction'}, {'id'...
8	False	/cHkxb5A4gQRK6zs6Pv7zorHs8Nk.jpg	{'id': 9485, 'name': 'The Fast and the Furious...	190000000	[{'id': 28, 'name': 'Action'}, {'id': 53, 'nam...
9	False	/6YwkGolwdOMNpbTOMLjoehIVWs5.jpg	{'id': 86311, 'name': 'The Avengers Collection'...	365000000	[{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...

	adult	backdrop_path	belongs_to_collection	budget	genres
10	False	/b6ZJZHUdMEFECvGiDpJlflUWela.jpg	{'id': 529892, 'name': 'Black Panther Collecti...	200000000	[{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...
11	False	/n5A7brJCejceZmHyujwUTVgQNC.jpg	{'id': 1241, 'name': 'Harry Potter Collection'...	125000000	[{'id': 14, 'name': 'Fantasy'}, {'id': 12, 'na...
12	False	/epVMXf10WqFkONzKR8V76Ypj5Y3.jpg	{'id': 10, 'name': 'Star Wars Collection', 'po...	200000000	[{'id': 12, 'name': 'Adventure'}, {'id': 28, '...
13	False	/AoSZyb37ljMAxw0RdeQEBHktgcc.jpg	{'id': 386382, 'name': 'Frozen Collection', 'p...	150000000	[{'id': 10751, 'name': 'Family'}, {'id': 16, '...
14	False	/3s9O5af2xWKWR5JzP2iJZpZeQQg.jpg	{'id': 328, 'name': 'Jurassic Park Collection'...	170000000	[{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...
15	False	/9WHM084AoskcHCObAy4QnJg01eM.jpg	{'id': 386382, 'name': 'Frozen Collection', 'p...	150000000	[{'id': 16, 'name': 'Animation'}, {'id': 10751...
16	False	/m3tdSyl11fhgXPDSEt3aBctTqGP.jpg	None	160000000	[{'id': 10751, 'name': 'Family'}, {'id': 14, '...
17	False	/mabuNsGJgRuCTuGqjFkWe1xdu19.jpg	{'id': 468222, 'name': 'The Incredibles Collec...	200000000	[{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...

In [46]:

```
1 df = df.loc[:,["title", "id", "revenue", "genres", "belongs_to_collection", "n
```

In [47]:

1	df
---	----

Out[47]:

	title	id	revenue	genres	belongs_to_collection	runtime
1	Avatar	19995	2920357254	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 87096, 'name': 'Avatar Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/ik208dS5g4EO2oHlM6g4oYUWQv.jpg'}	162
0	Avengers: Endgame	299534	2797800564	{'id': 12, 'name': 'Adventure'}, {'id': 878, 'name': 'Science Fiction'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/7dF0aT1hBd4R8qU4WUy39Hh9Xyc.jpg'}	181
4	Titanic	597	2187463944	{'id': 18, 'name': 'Drama'}, {'id': 10749, 'name': 'History'}	None	194
2	Star Wars: The Force Awakens	140607	2068223624	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 10, 'name': 'Star Wars Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/9GBhKzg5Q3YFN1U1U11t81133p1.jpg'}	136
3	Avengers: Infinity War	299536	2046239637	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/751Uw3pW0N1U38X0a1U38X0a1U3.jpg'}	149
5	Jurassic World	135397	1671537444	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 328, 'name': 'Jurassic Park Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/281ZDqXumDP0141Yp14bVlnyzz.jpg'}	124
6	The Lion King	420818	1667635327	{'id': 12, 'name': 'Adventure'}, {'id': 18, 'name': 'Drama'}	{'id': 762512, 'name': 'The Lion King (Reboot)', 'poster': 'https://image.tmdb.org/t/p/w1280/21jQQtC1oIMnCz8zIhZuZ1h1Jv.jpg'}	118
7	The Avengers	24428	1518815515	{'id': 878, 'name': 'Science Fiction'}, {'id': 12, 'name': 'Adventure'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/751Uw3pW0N1U38X0a1U38X0a1U3.jpg'}	143
8	Furious 7	168259	1515047671	{'id': 28, 'name': 'Action'}, {'id': 53, 'name': 'Thriller'}	{'id': 9485, 'name': 'The Fast and the Furious', 'poster': 'https://image.tmdb.org/t/p/w1280/8v45W8X0310010000000000000.jpg'}	137
13	Frozen II	330457	1450026933	{'id': 10751, 'name': 'Family'}, {'id': 16, 'name': 'Animation'}	{'id': 386382, 'name': 'Frozen Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/9K1E21T08U0XU1Z00000000000.jpg'}	103
9	Avengers: Age of Ultron	99861	1405403694	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/751Uw3pW0N1U38X0a1U38X0a1U3.jpg'}	141
10	Black Panther	284054	1347597973	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 529892, 'name': 'Black Panther Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/9K1E21T08U0XU1Z00000000000.jpg'}	135
11	Harry Potter and the Deathly Hallows: Part 2	12445	1341511219	{'id': 14, 'name': 'Fantasy'}, {'id': 12, 'name': 'Adventure'}	{'id': 1241, 'name': 'Harry Potter Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/9K1E21T08U0XU1Z00000000000.jpg'}	130
12	Star Wars: The Last Jedi	181808	1332698830	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 10, 'name': 'Star Wars Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/9GBhKzg5Q3YFN1U1U11t81133p1.jpg'}	152
14	Jurassic World: Fallen Kingdom	351286	1310466296	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 328, 'name': 'Jurassic Park Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/281ZDqXumDP0141Yp14bVlnyzz.jpg'}	129
15	Frozen	109445	1274219009	{'id': 16, 'name': 'Animation'}, {'id': 10751, 'name': 'Family'}	{'id': 386382, 'name': 'Frozen Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/9K1E21T08U0XU1Z00000000000.jpg'}	102
16	Beauty and the Beast	321612	1263521126	{'id': 10751, 'name': 'Family'}, {'id': 14, 'name': 'Fantasy'}	None	129

	title	id	revenue	genres	belongs_to_collection	runtime
17	Incredibles 2	260513	1242805359	[{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}]	{'id': 468222, 'name': 'The Incredibles Collection'}	118

In [60]:

1

df.to_json("movies.json", orient = "records")

In [61]:

1

with open("movies.json") as f:

2

data = json.load(f)

In [63]:

1	<code>pd.json_normalize(data)</code>
---	--------------------------------------

Out[63]:

	title	id	revenue	genres	runtime	belongs_to_collection.id	belongs_to_co
0	Avatar	19995	2920357254	{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...	162	87096.0	Av
1	Avengers: Endgame	299534	2797800564	{'id': 12, 'name': 'Adventure'}, {'id': 878, ...	181	86311.0	The Aven
2	Titanic	597	2187463944	{'id': 18, 'name': 'Drama'}, {'id': 10749, 'n...	194	NaN	
3	Star Wars: The Force Awakens	140607	2068223624	{'id': 12, 'name': 'Adventure'}, {'id': 28, '...	136	10.0	Star V
4	Avengers: Infinity War	299536	2046239637	{'id': 12, 'name': 'Adventure'}, {'id': 28, '...	149	86311.0	The Aven
5	Jurassic World	135397	1671537444	{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...	124	328.0	Jurassic I
6	The Lion King	420818	1667635327	{'id': 12, 'name': 'Adventure'}, {'id': 18, '...	118	762512.0	The Lion
7	The Avengers	24428	1518815515	{'id': 878, 'name': 'Science Fiction'}, {'id'...	143	86311.0	The Aven
8	Furious 7	168259	1515047671	{'id': 28, 'name': 'Action'}, {'id': 53, 'nam...	137	9485.0	The Fast a
9	Frozen II	330457	1450026933	{'id': 10751, 'name': 'Family'}, {'id': 16, '...	103	386382.0	Frc
10	Avengers: Age of Ultron	99861	1405403694	{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...	141	86311.0	The Aven
11	Black Panther	284054	1347597973	{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...	135	529892.0	Black Pan

	title	id	revenue	genres	runtime	belongs_to_collection.id	belongs_to_co
12	Harry Potter and the Deathly Hallows: Part 2	12445	1341511219	[{'id': 14, 'name': 'Fantasy'}, {'id': 12, 'na...	130	1241.0	Harry Po
13	Star Wars: The Last Jedi	181808	1332698830	[{'id': 12, 'name': 'Adventure'}, {'id': 28, '...	152	10.0	Star V
14	Jurassic World: Fallen Kingdom	351286	1310466296	[{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...	129	328.0	Jurassic f
15	Frozen	109445	1274219009	[{'id': 16, 'name': 'Animation'}, {'id': 10751...	102	386382.0	Frc
16	Beauty and the Beast	321612	1263521126	[{'id': 10751, 'name': 'Family'}, {'id': 14, '...	129	NaN	
17	Incredibles 2	260513	1242805359	[{'id': 28, 'name': 'Action'}, {'id': 12, 'nam...	118	468222.0	The Incredi


```
In [66]: 1 pd.json_normalize(data, record_path= "genres", meta="title")
```

Out[66]:

	id	name	title
0	28	Action	Avatar
1	12	Adventure	Avatar
2	14	Fantasy	Avatar
3	878	Science Fiction	Avatar
4	12	Adventure	Avengers: Endgame
5	878	Science Fiction	Avengers: Endgame
6	28	Action	Avengers: Endgame
7	18	Drama	Titanic
8	10749	Romance	Titanic
9	12	Adventure	Star Wars: The Force Awakens
10	28	Action	Star Wars: The Force Awakens
11	878	Science Fiction	Star Wars: The Force Awakens
12	14	Fantasy	Star Wars: The Force Awakens
13	12	Adventure	Avengers: Infinity War
14	28	Action	Avengers: Infinity War
15	878	Science Fiction	Avengers: Infinity War
16	28	Action	Jurassic World
17	12	Adventure	Jurassic World
18	878	Science Fiction	Jurassic World
19	53	Thriller	Jurassic World
20	12	Adventure	The Lion King
21	18	Drama	The Lion King
22	10751	Family	The Lion King
23	878	Science Fiction	The Avengers
24	28	Action	The Avengers
25	12	Adventure	The Avengers
26	28	Action	Furious 7
27	53	Thriller	Furious 7
28	80	Crime	Furious 7
29	10751	Family	Frozen II
30	16	Animation	Frozen II
31	12	Adventure	Frozen II
32	35	Comedy	Frozen II
33	14	Fantasy	Frozen II
34	28	Action	Avengers: Age of Ultron
35	12	Adventure	Avengers: Age of Ultron

	id	name	title
36	878	Science Fiction	Avengers: Age of Ultron
37	28	Action	Black Panther
38	12	Adventure	Black Panther
39	878	Science Fiction	Black Panther
40	14	Fantasy	Harry Potter and the Deathly Hallows: Part 2
41	12	Adventure	Harry Potter and the Deathly Hallows: Part 2
42	12	Adventure	Star Wars: The Last Jedi
43	28	Action	Star Wars: The Last Jedi
44	878	Science Fiction	Star Wars: The Last Jedi
45	28	Action	Jurassic World: Fallen Kingdom
46	12	Adventure	Jurassic World: Fallen Kingdom
47	878	Science Fiction	Jurassic World: Fallen Kingdom
48	53	Thriller	Jurassic World: Fallen Kingdom
49	16	Animation	Frozen
50	10751	Family	Frozen
51	12	Adventure	Frozen
52	14	Fantasy	Frozen
53	10751	Family	Beauty and the Beast
54	14	Fantasy	Beauty and the Beast
55	10749	Romance	Beauty and the Beast
56	28	Action	Incredibles 2
57	12	Adventure	Incredibles 2
58	16	Animation	Incredibles 2
59	10751	Family	Incredibles 2

Importing and Saving thr Movies Dataset (Real World Scenario)

In [67]:

1	df
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Out[67]:

	title	id	revenue	genres	belongs_to_collection	runtime
1	Avatar	19995	2920357254	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 87096, 'name': 'Avatar Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/ik2Kg25DhK1s5X5oZuEv9p1auJ1.jpg'}	162
0	Avengers: Endgame	299534	2797800564	{'id': 12, 'name': 'Adventure'}, {'id': 878, 'name': 'Science Fiction'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/AvengersEndgame.jpg'}	181
4	Titanic	597	2187463944	{'id': 18, 'name': 'Drama'}, {'id': 10749, 'name': 'History'}	None	194
2	Star Wars: The Force Awakens	140607	2068223624	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 10, 'name': 'Star Wars Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/starwars.jpg'}	136
3	Avengers: Infinity War	299536	2046239637	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/AvengersInfinityWar.jpg'}	149
5	Jurassic World	135397	1671537444	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 328, 'name': 'Jurassic Park Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/JurassicWorld.jpg'}	124
6	The Lion King	420818	1667635327	{'id': 12, 'name': 'Adventure'}, {'id': 18, 'name': 'Drama'}	{'id': 762512, 'name': 'The Lion King (Reboot)', 'poster': 'https://image.tmdb.org/t/p/w1280/LionKing.jpg'}	118
7	The Avengers	24428	1518815515	{'id': 878, 'name': 'Science Fiction'}, {'id': 12, 'name': 'Adventure'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/Avengers.jpg'}	143
8	Furious 7	168259	1515047671	{'id': 28, 'name': 'Action'}, {'id': 53, 'name': 'Thriller'}	{'id': 9485, 'name': 'The Fast and the Furious', 'poster': 'https://image.tmdb.org/t/p/w1280/Furious7.jpg'}	137
13	Frozen II	330457	1450026933	{'id': 10751, 'name': 'Family'}, {'id': 16, 'name': 'Animation'}	{'id': 386382, 'name': 'Frozen Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/FrozenII.jpg'}	103
9	Avengers: Age of Ultron	99861	1405403694	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/AvengersAgeOfUltron.jpg'}	141
10	Black Panther	284054	1347597973	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 529892, 'name': 'Black Panther Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/BlackPanther.jpg'}	135
11	Harry Potter and the Deathly Hallows: Part 2	12445	1341511219	{'id': 14, 'name': 'Fantasy'}, {'id': 12, 'name': 'Adventure'}	{'id': 1241, 'name': 'Harry Potter Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/HarryPotter.jpg'}	130
12	Star Wars: The Last Jedi	181808	1332698830	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 10, 'name': 'Star Wars Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/starwars.jpg'}	152
14	Jurassic World: Fallen Kingdom	351286	1310466296	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 328, 'name': 'Jurassic Park Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/JurassicWorld.jpg'}	129
15	Frozen	109445	1274219009	{'id': 16, 'name': 'Animation'}, {'id': 10751, 'name': 'Family'}	{'id': 386382, 'name': 'Frozen Collection', 'poster': 'https://image.tmdb.org/t/p/w1280/Frozen.jpg'}	102
16	Beauty and the Beast	321612	1263521126	{'id': 10751, 'name': 'Family'}, {'id': 14, 'name': 'Fantasy'}	None	129

	title	id	revenue	genres	belongs_to_collection	runtime
17	Incredibles 2	260513	1242805359	[{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}]	{'id': 468222, 'name': 'The Incredibles Collection'}	118

In [69]:

1 df.to_csv("X:\Data Science\Projects\Work with Pandas, SQL Databases, JSON, XML\movies.csv", index=False)

In [70]:

1 df = pd.read_csv("X:\Data Science\Projects\Work with Pandas, SQL Databases, XML\movies.csv")

In [71]:

1	df
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	title	id	revenue	genres	belongs_to_collection	runtime
0	Avatar	19995	2920357254	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 87096, 'name': 'Avatar Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/ik1up2lZc1HoiVqHz1vB3ZUhs28.jpg'}	162
1	Avengers: Endgame	299534	2797800564	{'id': 12, 'name': 'Adventure'}, {'id': 878, 'name': 'Science Fiction'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/AvengersEndgame.jpg'}	181
2	Titanic	597	2187463944	{'id': 18, 'name': 'Drama'}, {'id': 10749, 'name': 'History'}	NaN	194
3	Star Wars: The Force Awakens	140607	2068223624	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 10, 'name': 'Star Wars Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/starwars.jpg'}	136
4	Avengers: Infinity War	299536	2046239637	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/AvengersInfinityWar.jpg'}	149
5	Jurassic World	135397	1671537444	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 328, 'name': 'Jurassic Park Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/jurassicworld.jpg'}	124
6	The Lion King	420818	1667635327	{'id': 12, 'name': 'Adventure'}, {'id': 18, 'name': 'Drama'}	{'id': 762512, 'name': 'The Lion King (Reboot)', 'poster_path': 'https://image.tmdb.org/t/p/w1280/kingofthebeast.jpg'}	118
7	The Avengers	24428	1518815515	{'id': 878, 'name': 'Science Fiction'}, {'id': 12, 'name': 'Adventure'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/Avengers.jpg'}	143
8	Furious 7	168259	1515047671	{'id': 28, 'name': 'Action'}, {'id': 53, 'name': 'Thriller'}	{'id': 9485, 'name': 'The Fast and the Furious Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/furious7.jpg'}	137
9	Frozen II	330457	1450026933	{'id': 10751, 'name': 'Family'}, {'id': 16, 'name': 'Animation'}	{'id': 386382, 'name': 'Frozen Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/frozen2.jpg'}	103
10	Avengers: Age of Ultron	99861	1405403694	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 86311, 'name': 'The Avengers Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/AvengersAgeOfUltron.jpg'}	141
11	Black Panther	284054	1347597973	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 529892, 'name': 'Black Panther Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/blackpanther.jpg'}	135
12	Harry Potter and the Deathly Hallows: Part 2	12445	1341511219	{'id': 14, 'name': 'Fantasy'}, {'id': 12, 'name': 'Adventure'}	{'id': 1241, 'name': 'Harry Potter Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/harrypotter.jpg'}	130
13	Star Wars: The Last Jedi	181808	1332698830	{'id': 12, 'name': 'Adventure'}, {'id': 28, 'name': 'Action'}	{'id': 10, 'name': 'Star Wars Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/starwars.jpg'}	152
14	Jurassic World: Fallen Kingdom	351286	1310466296	{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}	{'id': 328, 'name': 'Jurassic Park Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/jurassicworld.jpg'}	129
15	Frozen	109445	1274219009	{'id': 16, 'name': 'Animation'}, {'id': 10751, 'name': 'Family'}	{'id': 386382, 'name': 'Frozen Collection', 'poster_path': 'https://image.tmdb.org/t/p/w1280/frozen.jpg'}	102
16	Beauty and the Beast	321612	1263521126	{'id': 10751, 'name': 'Family'}, {'id': 14, 'name': 'Fantasy'}	NaN	129

	title	id	revenue	genres	belongs_to_collection	runtime
17	Incredibles 2	260513	1242805359	[[{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}, {'id': 14, 'name': 'Fantasy'}, {'id': 878, 'name': 'Science Fiction'}]]	{'id': 468222, 'name': 'The Incredibles Collection'}	118

In [72]:

1

df.genres[0]

Out[72]:

"[{'id': 28, 'name': 'Action'}, {'id': 12, 'name': 'Adventure'}, {'id': 14, 'name': 'Fantasy'}, {'id': 878, 'name': 'Science Fiction'}]"

In []:

1