

In [1]:

```
# importing data to see highest domestic gross in 5 years
import pandas as pd
df= pd.read_csv('bom.movie_gross.csv.gz')
df.head()
df.drop(['foreign_gross','studio'], axis = 1, inplace=True)
df
```

Out[1]:

|      | title                                       | domestic_gross | year |
|------|---|----------------|------|
| 0    | Toy Story 3                                 | 415000000.0    | 2010 |
| 1    | Alice in Wonderland (2010)                  | 334200000.0    | 2010 |
| 2    | Harry Potter and the Deathly Hallows Part 1 | 296000000.0    | 2010 |
| 3    | Inception                                   | 292600000.0    | 2010 |
| 4    | Shrek Forever After                         | 238700000.0    | 2010 |
| ...  | ...   | ...            | ...  |
| 3382 | The Quake                                   | 6200.0         | 2018 |
| 3383 | Edward II (2018 re-release)                 | 4800.0         | 2018 |
| 3384 | El Pacto                                    | 2500.0         | 2018 |
| 3385 | The Swan                                    | 2400.0         | 2018 |
| 3386 | An Actor Prepares                           | 1700.0         | 2018 |

3387 rows × 3 columns

In [2]:

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 3387 entries, 0 to 3386
Data columns (total 3 columns):
#   Column          Non-Null Count  Dtype
---  -
0   title           3387 non-null   object
1   domestic_gross  3359 non-null   float64
2   year            3387 non-null   int64
dtypes: float64(1), int64(1), object(1)
memory usage: 79.5+ KB
```

In [3]:



```
# sorting data in scending year to see the latest year

dff=df.sort_values(by=['year'], ascending = False)
dff
```

Out[3]:

|      | title                          | domestic_gross | year |
|------|--------------------------------|----------------|------|
| 3386 | An Actor Prepares              | 1700.0         | 2018 |
| 3183 | On the Basis of Sex            | 24600000.0     | 2018 |
| 3176 | Tyler Perry's Acrimony         | 43500000.0     | 2018 |
| 3177 | Mary Queen of Scots            | 16500000.0     | 2018 |
| 3178 | The Possession of Hannah Grace | 14800000.0     | 2018 |
| ...  | ...                            | ...            | ...  |
| 220  | After.Life                     | 109000.0       | 2010 |
| 221  | Cairo Time                     | 1600000.0      | 2010 |
| 222  | Flipped                        | 1800000.0      | 2010 |
| 223  | Guzaarish                      | 1000000.0      | 2010 |
| 0    | Toy Story 3                    | 415000000.0    | 2010 |

3387 rows × 3 columns



In [4]:

```
# sorting data for latest 4 latest years

four_yrs = dff.loc[(dff['year'] > 2013)
                   & (dff['year'] <= 2018)]
four_yrs
```

Out[4]:

|      | title                           | domestic_gross | year |
|------|---------------------------------|----------------|------|
| 3386 | An Actor Prepares               | 1700.0         | 2018 |
| 3183 | On the Basis of Sex             | 24600000.0     | 2018 |
| 3176 | Tyler Perry's Acrimony          | 43500000.0     | 2018 |
| 3177 | Mary Queen of Scots             | 16500000.0     | 2018 |
| 3178 | The Possession of Hannah Grace  | 14800000.0     | 2018 |
| ...  | ...                             | ...            | ...  |
| 1619 | Yves Saint Laurent              | 724000.0       | 2014 |
| 1618 | Bears                           | 17800000.0     | 2014 |
| 1621 | Like Father, Like Son (2014)    | 335000.0       | 2014 |
| 1622 | Left Behind (2014)              | 14000000.0     | 2014 |
| 1623 | Legends of Oz: Dorothy's Return | 8500000.0      | 2014 |

1910 rows × 3 columns

In [5]:

```
four_yrs.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 1910 entries, 3386 to 1623
Data columns (total 3 columns):
 #   Column          Non-Null Count  Dtype
---  -
 0   title           1910 non-null   object
 1   domestic_gross  1901 non-null   float64
 2   year            1910 non-null   int64
dtypes: float64(1), int64(1), object(1)
memory usage: 59.7+ KB
```

In [6]:



```
# top performing movies in 4 years
top = four_yrs.sort_values(by=['domestic_gross'], ascending = False)
top
```

Out[6]:

|      | title                           | domestic_gross | year |
|------|---------------------------------|----------------|------|
| 1872 | Star Wars: The Force Awakens    | 936700000.0    | 2015 |
| 3080 | Black Panther                   | 700100000.0    | 2018 |
| 3079 | Avengers: Infinity War          | 678800000.0    | 2018 |
| 1873 | Jurassic World                  | 652300000.0    | 2015 |
| 2758 | Star Wars: The Last Jedi        | 620200000.0    | 2017 |
| ...  | ...                             | ...            | ...  |
| 1975 | Surprise - Journey To The West  | NaN            | 2015 |
| 1739 | Lila Lila                       | NaN            | 2014 |
| 1659 | Jessabelle                      | NaN            | 2014 |
| 1685 | Jack and the Cuckoo-Clock Heart | NaN            | 2014 |
| 1681 | 14 Blades                       | NaN            | 2014 |

1910 rows × 3 columns

In [7]:



```
# slicing top 20 performing movies thorough domestic gross collection
```

```
top_20 =top.iloc[1:21,:]  
top_20
```

Out[7]:

|      | title                          | domestic_gross | year |
|------|--------------------------------|----------------|------|
| 3080 | Black Panther                  | 700100000.0    | 2018 |
| 3079 | Avengers: Infinity War         | 678800000.0    | 2018 |
| 1873 | Jurassic World                 | 652300000.0    | 2015 |
| 2758 | Star Wars: The Last Jedi       | 620200000.0    | 2017 |
| 3082 | Incredibles 2                  | 608600000.0    | 2018 |
| 2323 | Rogue One: A Star Wars Story   | 532200000.0    | 2016 |
| 2759 | Beauty and the Beast (2017)    | 504000000.0    | 2017 |
| 2324 | Finding Dory                   | 486300000.0    | 2016 |
| 1875 | Avengers: Age of Ultron        | 459000000.0    | 2015 |
| 3081 | Jurassic World: Fallen Kingdom | 417700000.0    | 2018 |
| 2767 | Wonder Woman                   | 412600000.0    | 2017 |
| 2322 | Captain America: Civil War     | 408100000.0    | 2016 |
| 2762 | Jumanji: Welcome to the Jungle | 404500000.0    | 2017 |
| 2765 | Guardians of the Galaxy Vol. 2 | 389800000.0    | 2017 |
| 2327 | The Secret Life of Pets        | 368400000.0    | 2016 |
| 2326 | The Jungle Book (2016)         | 364000000.0    | 2016 |
| 2330 | Deadpool                       | 363100000.0    | 2016 |
| 1878 | Inside Out                     | 356500000.0    | 2015 |
| 1874 | Furious 7                      | 353000000.0    | 2015 |
| 1489 | American Sniper                | 350100000.0    | 2014 |

In [8]:

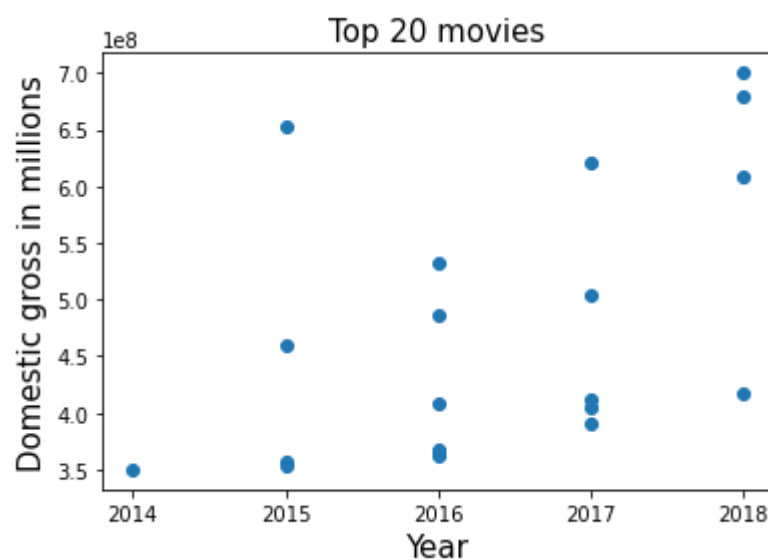
```
# poltting graph to see movies performance

import matplotlib.pyplot as plt
%matplotlib inline
import numpy as np
fig, ax = plt.subplots()
plt.scatter(top_20['year'], top_20['domestic_gross'])
plt.rcParams['figure.figsize'] = [15,15]
plt.xticks(np.arange(2014, 2019, 1))

ax.set_title('Top 20 movies',fontsize=15)
ax.set_xlabel('Year',fontsize=15)
ax.set_ylabel('Domestic gross in millions',fontsize=15)
```

Out[8]:

Text(0, 0.5, 'Domestic gross in millions')



In [9]:



```
# importing titles table to get genres for matching top 20 movies

dfim_basic = pd.read_csv('imdb.title.basics.csv.gz')
dfim_basic.head()
```

Out[9]:

|   | tconst    | primary_title                         | original_title                   | start_year | runtime_minutes | genres                 |
|---|-----------|---------------------------------------|----------------------------------|------------|-----------------|------------------------|
| 0 | tt0063540 | Sunghursh                             | Sunghursh                        | 2013       | 175.0           | Action, Crime, Drama   |
| 1 | tt0066787 | One Day<br>Before the<br>Rainy Season | Ashad Ka Ek<br>Din               | 2019       | 114.0           | Biography, Drama       |
| 2 | tt0069049 | The Other Side<br>of the Wind         | The Other<br>Side of the<br>Wind | 2018       | 122.0           | Drama                  |
| 3 | tt0069204 | Sabse Bada<br>Sukh                    | Sabse Bada<br>Sukh               | 2018       | NaN             | Comedy, Drama          |
| 4 | tt0100275 | The Wandering<br>Soap Opera           | La Telenovela<br>Errante         | 2017       | 80.0            | Comedy, Drama, Fantasy |

In [10]:



```
# To find top performing movies genre wise
# join table top_20 and imdb.title.basics to get genres of the top_20 movies

basic_yrs = dfim_basic.loc[(dfim_basic['start_year'] > 2013)
                           & (dfim_basic['start_year'] <= 2018)]
dfim_basic.drop(['runtime_minutes', 'original_title', 'start_year'], axis =1, inplace =True)

# renaming "primary_title" to "title" to prepare for merge

dfim_basic.rename(columns ={'primary_title':'title'}, inplace = True)

dfim_basic.set_index('title')
```

Out[10]:

|   | tconst    | genres                 |
|---|-----------|------------------------|
| title                                       |           |                        |
| Sunghursh                                   | tt0063540 | Action, Crime, Drama   |
| One Day Before the Rainy Season             | tt0066787 | Biography, Drama       |
| The Other Side of the Wind                  | tt0069049 | Drama                  |
| Sabse Bada Sukh                             | tt0069204 | Comedy, Drama          |
| The Wandering Soap Opera                    | tt0100275 | Comedy, Drama, Fantasy |
| ...   | ...       | ...                    |
| Kuambil Lagi Hatiku                         | tt9916538 | Drama                  |
| Rodolpho Teóphilo - O Legado de um Pioneiro | tt9916622 | Documentary            |
| Dankyavar Danka                             | tt9916706 | Comedy                 |
| 6 Gunn                                      | tt9916730 | NaN                    |
| Chico Albuquerque - Revelações              | tt9916754 | Documentary            |

146144 rows × 2 columns



In [11]:



```
# setting index to prepare for merge

top_20.set_index('title')
```

Out[11]:

|                                       | domestic_gross | year |
|---------------------------------------|----------------|------|
| title                                 |                |      |
| <b>Black Panther</b>                  | 700100000.0    | 2018 |
| <b>Avengers: Infinity War</b>         | 678800000.0    | 2018 |
| <b>Jurassic World</b>                 | 652300000.0    | 2015 |
| <b>Star Wars: The Last Jedi</b>       | 620200000.0    | 2017 |
| <b>Incredibles 2</b>                  | 608600000.0    | 2018 |
| <b>Rogue One: A Star Wars Story</b>   | 532200000.0    | 2016 |
| <b>Beauty and the Beast (2017)</b>    | 504000000.0    | 2017 |
| <b>Finding Dory</b>                   | 486300000.0    | 2016 |
| <b>Avengers: Age of Ultron</b>        | 459000000.0    | 2015 |
| <b>Jurassic World: Fallen Kingdom</b> | 417700000.0    | 2018 |
| <b>Wonder Woman</b>                   | 412600000.0    | 2017 |
| <b>Captain America: Civil War</b>     | 408100000.0    | 2016 |
| <b>Jumanji: Welcome to the Jungle</b> | 404500000.0    | 2017 |
| <b>Guardians of the Galaxy Vol. 2</b> | 389800000.0    | 2017 |
| <b>The Secret Life of Pets</b>        | 368400000.0    | 2016 |
| <b>The Jungle Book (2016)</b>         | 364000000.0    | 2016 |
| <b>Deadpool</b>                       | 363100000.0    | 2016 |
| <b>Inside Out</b>                     | 356500000.0    | 2015 |
| <b>Furious 7</b>                      | 353000000.0    | 2015 |
| <b>American Sniper</b>                | 350100000.0    | 2014 |

In [12]:



```
# cross checking if the Black Panther tconst has come across in merged df

dfim_basic[dfim_basic['title']=='Black Panther']
```

Out[12]:

|              | tconst    | title         | genres                  |
|--------------|-----------|---------------|-------------------------|
| <b>19050</b> | tt1825683 | Black Panther | Action,Adventure,Sci-Fi |

In [13]:



```
# merging top_20 with dfim_basic to get tconst

genre_join = top_20.merge(dfim_basic, how='left')
genre_join
```

Out[13]:

|    | title                          | domestic_gross | year | tconst    | genres                        |
|----|--------------------------------|----------------|------|-----------|-------------------------------|
| 0  | Black Panther                  | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi       |
| 1  | Avengers: Infinity War         | 678800000.0    | 2018 | tt4154756 | Action,Adventure,Sci-Fi       |
| 2  | Jurassic World                 | 652300000.0    | 2015 | tt0369610 | Action,Adventure,Sci-Fi       |
| 3  | Star Wars: The Last Jedi       | 620200000.0    | 2017 | tt2527336 | Action,Adventure,Fantasy      |
| 4  | Incredibles 2                  | 608600000.0    | 2018 | tt3606756 | Action,Adventure,Animation    |
| 5  | Rogue One: A Star Wars Story   | 532200000.0    | 2016 | tt3748528 | Action,Adventure,Sci-Fi       |
| 6  | Beauty and the Beast (2017)    | 504000000.0    | 2017 | NaN       | NaN                           |
| 7  | Finding Dory                   | 486300000.0    | 2016 | tt2277860 | Adventure,Animation,Comedy    |
| 8  | Avengers: Age of Ultron        | 459000000.0    | 2015 | tt2395427 | Action,Adventure,Sci-Fi       |
| 9  | Jurassic World: Fallen Kingdom | 417700000.0    | 2018 | tt4881806 | Action,Adventure,Sci-Fi       |
| 10 | Wonder Woman                   | 412600000.0    | 2017 | tt0451279 | Action,Adventure,Fantasy      |
| 11 | Wonder Woman                   | 412600000.0    | 2017 | tt4028068 | Sci-Fi                        |
| 12 | Wonder Woman                   | 412600000.0    | 2017 | tt4283448 | Documentary,Drama,Sport       |
| 13 | Captain America: Civil War     | 408100000.0    | 2016 | tt3498820 | Action,Adventure,Sci-Fi       |
| 14 | Jumanji: Welcome to the Jungle | 404500000.0    | 2017 | tt2283362 | Action,Adventure,Comedy       |
| 15 | Guardians of the Galaxy Vol. 2 | 389800000.0    | 2017 | tt3896198 | Action,Adventure,Comedy       |
| 16 | The Secret Life of Pets        | 368400000.0    | 2016 | tt2709768 | Adventure,Animation,Comedy    |
| 17 | The Jungle Book (2016)         | 364000000.0    | 2016 | NaN       | NaN                           |
| 18 | Deadpool                       | 363100000.0    | 2016 | tt1431045 | Action,Adventure,Comedy       |
| 19 | Inside Out                     | 356500000.0    | 2015 | tt1640486 | Crime,Drama                   |
| 20 | Inside Out                     | 356500000.0    | 2015 | tt1865538 | Documentary                   |
| 21 | Inside Out                     | 356500000.0    | 2015 | tt2064820 | Drama                         |
| 22 | Inside Out                     | 356500000.0    | 2015 | tt2071483 | Family                        |
| 23 | Inside Out                     | 356500000.0    | 2015 | tt2096673 | Adventure,Animation,Comedy    |
| 24 | Inside Out                     | 356500000.0    | 2015 | tt2608638 | Biography,Documentary,History |
| 25 | Inside Out                     | 356500000.0    | 2015 | tt6419446 | NaN                           |
| 26 | Inside Out                     | 356500000.0    | 2015 | tt8269544 | NaN                           |
| 27 | Furious 7                      | 353000000.0    | 2015 | tt2820852 | Action,Crime,Thriller         |
| 28 | American Sniper                | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama        |

In [14]:



```
# dropping duplicates from above merge.
# getting final data for merging with another df to get these genres directors and writers

gen_final =genre_join.drop_duplicates(['title'], keep = 'first')
gen_final
```

Out[14]:

|    | title                          | domestic_gross | year | tconst    | genres                     |
|----|--------------------------------|----------------|------|-----------|----------------------------|
| 0  | Black Panther                  | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi    |
| 1  | Avengers: Infinity War         | 678800000.0    | 2018 | tt4154756 | Action,Adventure,Sci-Fi    |
| 2  | Jurassic World                 | 652300000.0    | 2015 | tt0369610 | Action,Adventure,Sci-Fi    |
| 3  | Star Wars: The Last Jedi       | 620200000.0    | 2017 | tt2527336 | Action,Adventure,Fantasy   |
| 4  | Incredibles 2                  | 608600000.0    | 2018 | tt3606756 | Action,Adventure,Animation |
| 5  | Rogue One: A Star Wars Story   | 532200000.0    | 2016 | tt3748528 | Action,Adventure,Sci-Fi    |
| 6  | Beauty and the Beast (2017)    | 504000000.0    | 2017 | NaN       | NaN                        |
| 7  | Finding Dory                   | 486300000.0    | 2016 | tt2277860 | Adventure,Animation,Comedy |
| 8  | Avengers: Age of Ultron        | 459000000.0    | 2015 | tt2395427 | Action,Adventure,Sci-Fi    |
| 9  | Jurassic World: Fallen Kingdom | 417700000.0    | 2018 | tt4881806 | Action,Adventure,Sci-Fi    |
| 10 | Wonder Woman                   | 412600000.0    | 2017 | tt0451279 | Action,Adventure,Fantasy   |
| 13 | Captain America: Civil War     | 408100000.0    | 2016 | tt3498820 | Action,Adventure,Sci-Fi    |
| 14 | Jumanji: Welcome to the Jungle | 404500000.0    | 2017 | tt2283362 | Action,Adventure,Comedy    |
| 15 | Guardians of the Galaxy Vol. 2 | 389800000.0    | 2017 | tt3896198 | Action,Adventure,Comedy    |
| 16 | The Secret Life of Pets        | 368400000.0    | 2016 | tt2709768 | Adventure,Animation,Comedy |
| 17 | The Jungle Book (2016)         | 364000000.0    | 2016 | NaN       | NaN                        |
| 18 | Deadpool                       | 363100000.0    | 2016 | tt1431045 | Action,Adventure,Comedy    |
| 19 | Inside Out                     | 356500000.0    | 2015 | tt1640486 | Crime,Drama                |
| 27 | Furious 7                      | 353000000.0    | 2015 | tt2820852 | Action,Crime,Thriller      |
| 28 | American Sniper                | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama     |

In [15]:



```
# mean of domestic gross by grouping genres  
genre_graph = gen_final.groupby('genres').mean()  
genre_graph
```

Out[15]:

|                            | domestic_gross | year        |
|----------------------------|----------------|-------------|
| genres                     |                |             |
| Action,Adventure,Animation | 6.086000e+08   | 2018.000000 |
| Action,Adventure,Comedy    | 3.858000e+08   | 2016.666667 |
| Action,Adventure,Fantasy   | 5.164000e+08   | 2017.000000 |
| Action,Adventure,Sci-Fi    | 5.497429e+08   | 2016.571429 |
| Action,Biography,Drama     | 3.501000e+08   | 2014.000000 |
| Action,Crime,Thriller      | 3.530000e+08   | 2015.000000 |
| Adventure,Animation,Comedy | 4.273500e+08   | 2016.000000 |
| Crime,Drama                | 3.565000e+08   | 2015.000000 |

In [16]:

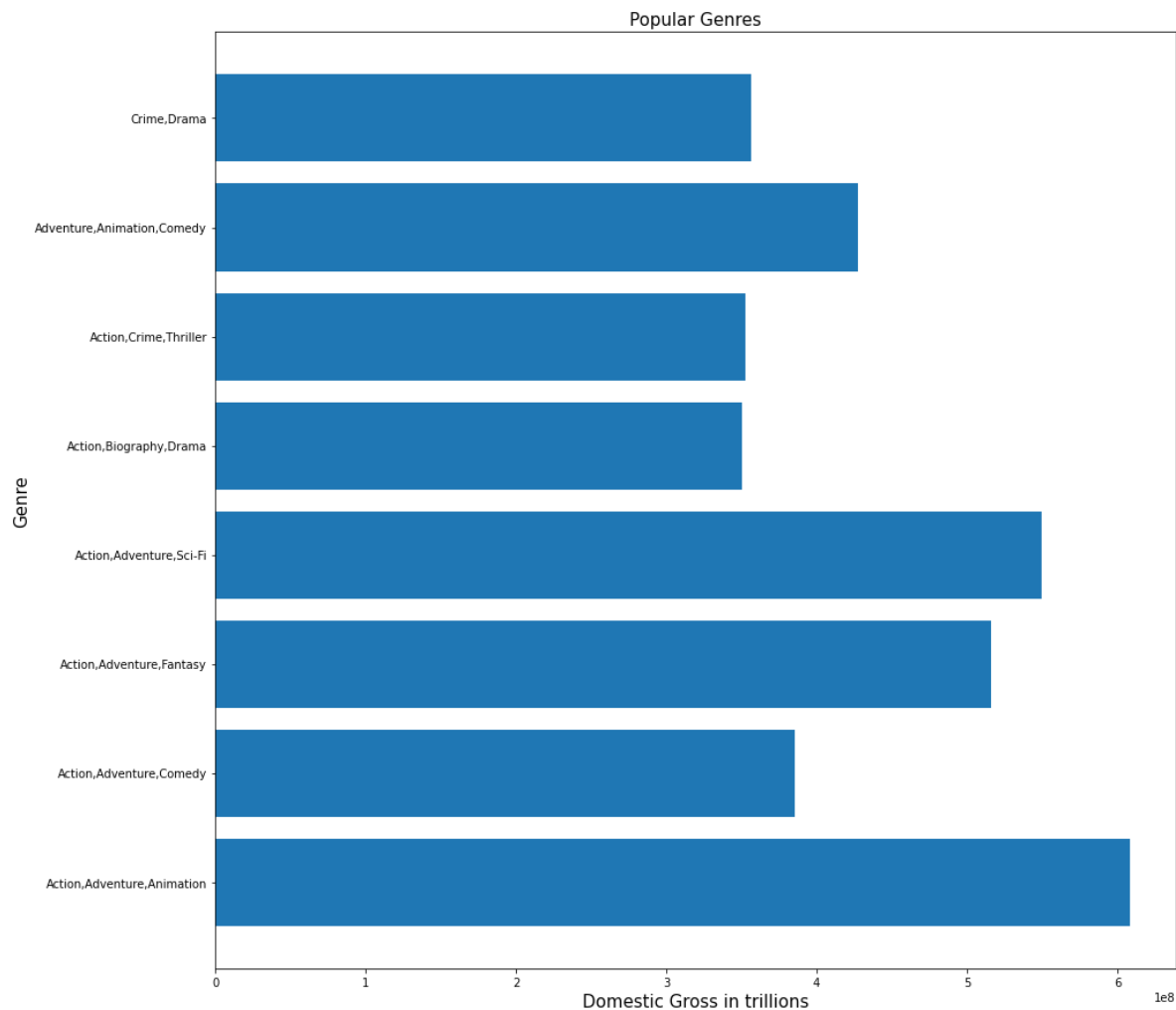


```
genre_graph = genre_graph.reset_index()
```

In [17]:

```
# plotting bar graph to see which genre is most popular

import matplotlib.pyplot as plt
x= genre_graph['genres']
y = genre_graph['domestic_gross']
plt.barh(x,y)
plt.title('Popular Genres', fontsize=15)
plt.ylabel('Genre', fontsize=15)
plt.xlabel('Domestic Gross in trillions', fontsize=15)
plt.show()
```



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In [18]:

```
# importing datasets to find out popular movies Directors and Writers
crew = pd.read_csv('imdb.title.crew.csv.gz')
principals = pd.read_csv('imdb.title.principals.csv.gz')
movies = pd.read_csv('imdb.title.basics.csv.gz')
names = pd.read_csv('imdb.name.basics.csv.gz')
```

In [19]:

```
movies.head()
```

Out[19]:

|   | tconst    | primary_title                         | original_title                   | start_year | runtime_minutes | genres                 |
|---|-----------|---------------------------------------|----------------------------------|------------|-----------------|------------------------|
| 0 | tt0063540 | Sunghursh                             | Sunghursh                        | 2013       | 175.0           | Action, Crime, Drama   |
| 1 | tt0066787 | One Day<br>Before the<br>Rainy Season | Ashad Ka Ek<br>Din               | 2019       | 114.0           | Biography, Drama       |
| 2 | tt0069049 | The Other Side<br>of the Wind         | The Other<br>Side of the<br>Wind | 2018       | 122.0           | Drama                  |
| 3 | tt0069204 | Sabse Bada<br>Sukh                    | Sabse Bada<br>Sukh               | 2018       | NaN             | Comedy, Drama          |
| 4 | tt0100275 | The Wandering<br>Soap Opera           | La Telenovela<br>Errante         | 2017       | 80.0            | Comedy, Drama, Fantasy |

In [20]:

```
crew.head()
```

Out[20]:

|   | tconst    | directors                       | writers              |
|---|-----------|---------------------------------|----------------------|
| 0 | tt0285252 | nm0899854                       | nm0899854            |
| 1 | tt0438973 | NaN                             | nm0175726, nm1802864 |
| 2 | tt0462036 | nm1940585                       | nm1940585            |
| 3 | tt0835418 | nm0151540                       | nm0310087, nm0841532 |
| 4 | tt0878654 | nm0089502, nm2291498, nm2292011 | nm0284943            |

In [21]:

```
names.head()
```

Out[21]:

|   | nconst    | primary_name      | birth_year | death_year | primary_profession                          |
|---|-----------|-------------------|------------|------------|---|
| 0 | nm0061671 | Mary Ellen Bauder | NaN        | NaN        | miscellaneous,production_manager,pro        |
| 1 | nm0061865 | Joseph Bauer      | NaN        | NaN        | composer,music_department,sound_depar       |
| 2 | nm0062070 | Bruce Baum        | NaN        | NaN        | miscellaneous,actor,                        |
| 3 | nm0062195 | Axel Baumann      | NaN        | NaN        | camera_department,cinematographer,art_depar |
| 4 | nm0062798 | Pete Baxter       | NaN        | NaN        | production_designer,art_department,set_dec  |

In [22]:

```
movies[movies['primary_title']=='Inside Out']
```

Out[22]:

|        | tconst    | primary_title | original_title     | start_year | runtime_minutes | genres                |
|--------|-----------|---------------|--------------------|------------|-----------------|-----------------------|
| 11735  | tt1640486 | Inside Out    | Inside Out         | 2011       | 93.0            | Crime                 |
| 20881  | tt1865538 | Inside Out    | Ti mesa, ti exo... | 2011       | 74.0            | Docu                  |
| 26786  | tt2064820 | Inside Out    | Inside Out         | 2011       | NaN             |                       |
| 27024  | tt2071483 | Inside Out    | Inside Out         | 2011       | 59.0            |                       |
| 28269  | tt2096673 | Inside Out    | Inside Out         | 2015       | 95.0            | Adventure,Animation,I |
| 43781  | tt2608638 | Inside Out    | Inside Out         | 2013       | 75.0            | Biography,Documentary |
| 109260 | tt6419446 | Inside Out    | Inside Out         | 2011       | NaN             |                       |
| 132362 | tt8269544 | Inside Out    | Inside Out         | 2018       | NaN             |                       |

In [23]:



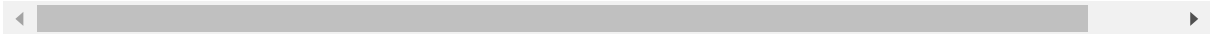
```
# extracting all data related to top 20 movies
example_movies = movies[(movies['primary_title']).isin(['Avengers: Infinity War', 'Furious 7
example_movies
```

Out[23]:

|       | tconst    | primary_title                  | original_title                          | start_year | runtime_minutes |                       |
|-------|-----------|--------------------------------|---|------------|-----------------|-----------------------|
| 60    | tt0369610 | Jurassic World                 | Jurassic World                          | 2015       | 124.0           | Action,Adventure      |
| 131   | tt0451279 | Wonder Woman                   | Wonder Woman                            | 2017       | 141.0           | Action,Adventure      |
| 7543  | tt1431045 | Deadpool                       | Deadpool                                | 2016       | 108.0           | Action,Adventure      |
| 11735 | tt1640486 | Inside Out                     | Inside Out                              | 2011       | 93.0            | Crime                 |
| 19050 | tt1825683 | Black Panther                  | Black Panther                           | 2018       | 134.0           | Action,Adventure      |
| 20881 | tt1865538 | Inside Out                     | Ti mesa, ti exo...                      | 2011       | 74.0            | Docu                  |
| 26786 | tt2064820 | Inside Out                     | Inside Out                              | 2011       | NaN             |                       |
| 27024 | tt2071483 | Inside Out                     | Inside Out                              | 2011       | 59.0            |                       |
| 28269 | tt2096673 | Inside Out                     | Inside Out                              | 2015       | 95.0            | Adventure,Animation   |
| 31013 | tt2179136 | American Sniper                | American Sniper                         | 2014       | 133.0           | Action,Biography      |
| 34496 | tt2277860 | Finding Dory                   | Finding Dory                            | 2016       | 97.0            | Adventure,Animation   |
| 34723 | tt2283362 | Jumanji: Welcome to the Jungle | Jumanji: Welcome to the Jungle          | 2017       | 119.0           | Action,Adventure      |
| 39010 | tt2395427 | Avengers: Age of Ultron        | Avengers: Age of Ultron                 | 2015       | 141.0           | Action,Adventure      |
| 42223 | tt2527336 | Star Wars: The Last Jedi       | Star Wars: Episode VIII - The Last Jedi | 2017       | 152.0           | Action,Adventure      |
| 43781 | tt2608638 | Inside Out                     | Inside Out                              | 2013       | 75.0            | Biography,Documentary |
| 45535 | tt2709768 | The Secret Life of Pets        | The Secret Life of Pets                 | 2016       | 87.0            | Adventure,Animation   |
| 47535 | tt2820852 | Furious 7                      | Furious Seven                           | 2015       | 137.0           | Action,Crime          |
| 60379 | tt3498820 | Captain America: Civil War     | Captain America: Civil War              | 2016       | 147.0           | Action,Adventure      |
| 62741 | tt3606756 | Incredibles 2                  | Incredibles 2                           | 2018       | 118.0           | Action,Adventure      |
| 65705 | tt3748528 | Rogue One: A Star Wars Story   | Rogue One                               | 2016       | 133.0           | Action,Adventure      |
| 68538 | tt3896198 | Guardians of the Galaxy Vol. 2 | Guardians of the Galaxy Vol. 2          | 2017       | 136.0           | Action,Adventure      |



|        | tconst    | primary_title                  | original_title                 | start_year | runtime_minutes |                  |
|--------|-----------|--------------------------------|--------------------------------|------------|-----------------|------------------|
| 70470  | tt4028068 | Wonder Woman                   | Wonder Woman                   | 2014       | 60.0            |                  |
| 72820  | tt4154756 | Avengers: Infinity War         | Avengers: Infinity War         | 2018       | 149.0           | Action,Adventu   |
| 75016  | tt4283448 | Wonder Woman                   | Wonder Woman                   | 2016       | 75.0            | Documentary,Dran |
| 84414  | tt4881806 | Jurassic World: Fallen Kingdom | Jurassic World: Fallen Kingdom | 2018       | 128.0           | Action,Adventu   |
| 109260 | tt6419446 | Inside Out                     | Inside Out                     | 2011       | NaN             |                  |
| 132362 | tt8269544 | Inside Out                     | Inside Out                     | 2018       | NaN             |                  |



In [29]:



```
# removing duplicate titles from the dataframe
```

```
eg_movies = example_movies[-((example_movies['primary_title']=='Inside Out') & (example_mov
eg_movie = eg_movies[-((eg_movies['primary_title']=='Wonder Woman') & (eg_movies['start_yea
eg_movie
```

Out[29]:

|       | tconst    | primary_title                  | original_title                          | start_year | runtime_minutes | genres                     |
|-------|-----------|--------------------------------|---|------------|-----------------|----------------------------|
| 60    | tt0369610 | Jurassic World                 | Jurassic World                          | 2015       | 124.0           | Action,Adventure,Sci-Fi    |
| 131   | tt0451279 | Wonder Woman                   | Wonder Woman                            | 2017       | 141.0           | Action,Adventure,Fantasy   |
| 7543  | tt1431045 | Deadpool                       | Deadpool                                | 2016       | 108.0           | Action,Adventure,Comedy    |
| 19050 | tt1825683 | Black Panther                  | Black Panther                           | 2018       | 134.0           | Action,Adventure,Sci-Fi    |
| 28269 | tt2096673 | Inside Out                     | Inside Out                              | 2015       | 95.0            | Adventure,Animation,Comedy |
| 31013 | tt2179136 | American Sniper                | American Sniper                         | 2014       | 133.0           | Action,Biography,Drama     |
| 34496 | tt2277860 | Finding Dory                   | Finding Dory                            | 2016       | 97.0            | Adventure,Animation,Comedy |
| 34723 | tt2283362 | Jumanji: Welcome to the Jungle | Jumanji: Welcome to the Jungle          | 2017       | 119.0           | Action,Adventure,Comedy    |
| 39010 | tt2395427 | Avengers: Age of Ultron        | Avengers: Age of Ultron                 | 2015       | 141.0           | Action,Adventure,Sci-Fi    |
| 42223 | tt2527336 | Star Wars: The Last Jedi       | Star Wars: Episode VIII - The Last Jedi | 2017       | 152.0           | Action,Adventure,Fantasy   |
| 45535 | tt2709768 | The Secret Life of Pets        | The Secret Life of Pets                 | 2016       | 87.0            | Adventure,Animation,Comedy |
| 47535 | tt2820852 | Furious 7                      | Furious Seven                           | 2015       | 137.0           | Action,Crime,Thriller      |
| 60379 | tt3498820 | Captain America: Civil War     | Captain America: Civil War              | 2016       | 147.0           | Action,Adventure,Sci-Fi    |
| 62741 | tt3606756 | Incredibles 2                  | Incredibles 2                           | 2018       | 118.0           | Action,Adventure,Animation |
| 65705 | tt3748528 | Rogue One: A Star Wars Story   | Rogue One                               | 2016       | 133.0           | Action,Adventure,Sci-Fi    |
| 68538 | tt3896198 | Guardians of the Galaxy Vol. 2 | Guardians of the Galaxy Vol. 2          | 2017       | 136.0           | Action,Adventure,Comedy    |
| 72820 | tt4154756 | Avengers: Infinity War         | Avengers: Infinity War                  | 2018       | 149.0           | Action,Adventure,Sci-Fi    |
| 84414 | tt4881806 | Jurassic World: Fallen Kingdom | Jurassic World: Fallen Kingdom          | 2018       | 128.0           | Action,Adventure,Sci-Fi    |



In [32]:



```
# Merging to get directors and writers List
```

```
eg_movie = eg_movie.merge(crew, on='tconst')
eg_movie
```

Out[32]:

|    | tconst    | primary_title                  | original_title                          | start_year | runtime_minutes | genre                     |
|----|-----------|--------------------------------|---|------------|-----------------|---------------------------|
| 0  | tt0369610 | Jurassic World                 | Jurassic World                          | 2015       | 124.0           | Action,Adventure,Sci-I    |
| 1  | tt0451279 | Wonder Woman                   | Wonder Woman                            | 2017       | 141.0           | Action,Adventure,Fantas   |
| 2  | tt1431045 | Deadpool                       | Deadpool                                | 2016       | 108.0           | Action,Adventure,Comec    |
| 3  | tt1825683 | Black Panther                  | Black Panther                           | 2018       | 134.0           | Action,Adventure,Sci-I    |
| 4  | tt2096673 | Inside Out                     | Inside Out                              | 2015       | 95.0            | Adventure,Animation,Comec |
| 5  | tt2179136 | American Sniper                | American Sniper                         | 2014       | 133.0           | Action,Biography,Dram     |
| 6  | tt2277860 | Finding Dory                   | Finding Dory                            | 2016       | 97.0            | Adventure,Animation,Comec |
| 7  | tt2283362 | Jumanji: Welcome to the Jungle | Jumanji: Welcome to the Jungle          | 2017       | 119.0           | Action,Adventure,Comec    |
| 8  | tt2395427 | Avengers: Age of Ultron        | Avengers: Age of Ultron                 | 2015       | 141.0           | Action,Adventure,Sci-I    |
| 9  | tt2527336 | Star Wars: The Last Jedi       | Star Wars: Episode VIII - The Last Jedi | 2017       | 152.0           | Action,Adventure,Fantas   |
| 10 | tt2709768 | The Secret Life of Pets        | The Secret Life of Pets                 | 2016       | 87.0            | Adventure,Animation,Comec |
| 11 | tt2820852 | Furious 7                      | Furious Seven                           | 2015       | 137.0           | Action,Crime,Thrill       |
| 12 | tt3498820 | Captain America: Civil War     | Captain America: Civil War              | 2016       | 147.0           | Action,Adventure,Sci-I    |
| 13 | tt3606756 | Incredibles 2                  | Incredibles 2                           | 2018       | 118.0           | Action,Adventure,Animatic |
| 14 | tt3748528 | Rogue One: A Star Wars Story   | Rogue One                               | 2016       | 133.0           | Action,Adventure,Sci-I    |
| 15 | tt3896198 | Guardians of the Galaxy Vol. 2 | Guardians of the Galaxy Vol. 2          | 2017       | 136.0           | Action,Adventure,Comec    |
| 16 | tt4028068 | Wonder Woman                   | Wonder Woman                            | 2014       | 60.0            | Sci-I                     |
| 17 | tt4154756 | Avengers: Infinity War         | Avengers: Infinity War                  | 2018       | 149.0           | Action,Adventure,Sci-I    |
| 18 | tt4283448 | Wonder Woman                   | Wonder Woman                            | 2016       | 75.0            | Documentary,Drama,Spo     |
| 19 | tt4881806 | Jurassic World: Fallen Kingdom | Jurassic World: Fallen Kingdom          | 2018       | 128.0           | Action,Adventure,Sci-I    |



In [33]:



# Merging

```
director_names = eg_movie.merge(names, left_on='directors', right_on='nconst', how='left')
display(director_names)
director_names.info()
```

|    | tconst    | primary_title                  | original_title                          | start_year | runtime_minutes | ge                      |
|----|-----------|--------------------------------|---|------------|-----------------|-------------------------|
| 0  | tt0369610 | Jurassic World                 | Jurassic World                          | 2015       | 124.0           | Action,Adventure,S      |
| 1  | tt0451279 | Wonder Woman                   | Wonder Woman                            | 2017       | 141.0           | Action,Adventure,Far    |
| 2  | tt1431045 | Deadpool                       | Deadpool                                | 2016       | 108.0           | Action,Adventure,Cor    |
| 3  | tt1825683 | Black Panther                  | Black Panther                           | 2018       | 134.0           | Action,Adventure,S      |
| 4  | tt2096673 | Inside Out                     | Inside Out                              | 2015       | 95.0            | Adventure,Animation,Cor |
| 5  | tt2179136 | American Sniper                | American Sniper                         | 2014       | 133.0           | Action,Biography,Di     |
| 6  | tt2277860 | Finding Dory                   | Finding Dory                            | 2016       | 97.0            | Adventure,Animation,Cor |
| 7  | tt2283362 | Jumanji: Welcome to the Jungle | Jumanji: Welcome to the Jungle          | 2017       | 119.0           | Action,Adventure,Cor    |
| 8  | tt2395427 | Avengers: Age of Ultron        | Avengers: Age of Ultron                 | 2015       | 141.0           | Action,Adventure,S      |
| 9  | tt2527336 | Star Wars: The Last Jedi       | Star Wars: Episode VIII - The Last Jedi | 2017       | 152.0           | Action,Adventure,Far    |
| 10 | tt2709768 | The Secret Life of Pets        | The Secret Life of Pets                 | 2016       | 87.0            | Adventure,Animation,Cor |
| 11 | tt2820852 | Furious 7                      | Furious Seven                           | 2015       | 137.0           | Action,Crime,Th         |
| 12 | tt3498820 | Captain America: Civil War     | Captain America: Civil War              | 2016       | 147.0           | Action,Adventure,S      |
| 13 | tt3606756 | Incredibles 2                  | Incredibles 2                           | 2018       | 118.0           | Action,Adventure,Anim   |
| 14 | tt3748528 | Rogue One: A Star Wars Story   | Rogue One                               | 2016       | 133.0           | Action,Adventure,S      |
| 15 | tt3896198 | Guardians of the Galaxy Vol. 2 | Guardians of the Galaxy Vol. 2          | 2017       | 136.0           | Action,Adventure,Cor    |
| 16 | tt4028068 | Wonder Woman                   | Wonder Woman                            | 2014       | 60.0            | S                       |
| 17 | tt4154756 | Avengers: Infinity War         | Avengers: Infinity War                  | 2018       | 149.0           | Action,Adventure,S      |
| 18 | tt4283448 | Wonder Woman                   | Wonder Woman                            | 2016       | 75.0            | Documentary,Drama,S     |

|    | tconst    | primary_title                  | original_title                 | start_year | runtime_minutes | ge                 |
|----|-----------|--------------------------------|--------------------------------|------------|-----------------|--------------------|
| 19 | tt4881806 | Jurassic World: Fallen Kingdom | Jurassic World: Fallen Kingdom | 2018       | 128.0           | Action,Adventure,S |

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 20 entries, 0 to 19
Data columns (total 18 columns):
#   Column                Non-Null Count  Dtype
---  -
0   tconst                20 non-null    object
1   primary_title         20 non-null    object
2   original_title        20 non-null    object
3   start_year            20 non-null    int64
4   runtime_minutes       20 non-null    float64
5   genres                20 non-null    object
6   directors_x           20 non-null    object
7   writers_x             19 non-null    object
8   directors_y           20 non-null    object
9   writers_y             19 non-null    object
10  directors              20 non-null    object
11  writers                19 non-null    object
12  nconst                13 non-null    object
13  primary_name           13 non-null    object
14  birth_year            12 non-null    float64
15  death_year            0 non-null     float64
16  primary_profession    13 non-null    object
17  known_for_titles      13 non-null    object
dtypes: float64(3), int64(1), object(14)
memory usage: 3.0+ KB
```

In [37]:

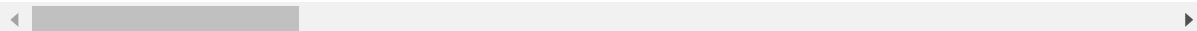


```
# Dropping duplicate directors
```

```
director_list=director_names.dropna(subset=['primary_name'])
director_list
```

Out[37]:

|    | tconst    | primary_title                  | original_title                          | start_year | runtime_minutes | genres                     |
|----|-----------|--------------------------------|---|------------|-----------------|----------------------------|
| 0  | tt0369610 | Jurassic World                 | Jurassic World                          | 2015       | 124.0           | Action,Adventure,Sci-Fi    |
| 1  | tt0451279 | Wonder Woman                   | Wonder Woman                            | 2017       | 141.0           | Action,Adventure,Fantasy   |
| 2  | tt1431045 | Deadpool                       | Deadpool                                | 2016       | 108.0           | Action,Adventure,Comedy    |
| 3  | tt1825683 | Black Panther                  | Black Panther                           | 2018       | 134.0           | Action,Adventure,Sci-Fi    |
| 5  | tt2179136 | American Sniper                | American Sniper                         | 2014       | 133.0           | Action,Biography,Drama     |
| 7  | tt2283362 | Jumanji: Welcome to the Jungle | Jumanji: Welcome to the Jungle          | 2017       | 119.0           | Action,Adventure,Comedy    |
| 8  | tt2395427 | Avengers: Age of Ultron        | Avengers: Age of Ultron                 | 2015       | 141.0           | Action,Adventure,Sci-Fi    |
| 9  | tt2527336 | Star Wars: The Last Jedi       | Star Wars: Episode VIII - The Last Jedi | 2017       | 152.0           | Action,Adventure,Fantasy   |
| 11 | tt2820852 | Furious 7                      | Furious Seven                           | 2015       | 137.0           | Action,Crime,Thriller      |
| 13 | tt3606756 | Incredibles 2                  | Incredibles 2                           | 2018       | 118.0           | Action,Adventure,Animation |
| 14 | tt3748528 | Rogue One: A Star Wars Story   | Rogue One                               | 2016       | 133.0           | Action,Adventure,Sci-Fi    |
| 15 | tt3896198 | Guardians of the Galaxy Vol. 2 | Guardians of the Galaxy Vol. 2          | 2017       | 136.0           | Action,Adventure,Comedy    |
| 19 | tt4881806 | Jurassic World: Fallen Kingdom | Jurassic World: Fallen Kingdom          | 2018       | 128.0           | Action,Adventure,Sci-Fi    |





In [38]:



```
# List of Directors

print(director_list.loc[:, 'primary_name'])
```

```
0    Colin Trevorrow
1    Patty Jenkins
2    Tim Miller
3    Ryan Coogler
5    Clint Eastwood
7    Jake Kasdan
8    Joss Whedon
9    Rian Johnson
11   James Wan
13   Brad Bird
14   Gareth Edwards
15   James Gunn
19   J.A. Bayona
Name: primary_name, dtype: object
```

In [28]:



```
# Inspecting data
principals.head()
```

Out[28]:

|   | tconst    | ordering | nconst    | category | job      | characters       |
|---|-----------|----------|-----------|----------|----------|------------------|
| 0 | tt0111414 | 1        | nm0246005 | actor    | NaN      | ["The Man"]      |
| 1 | tt0111414 | 2        | nm0398271 | director | NaN      | NaN              |
| 2 | tt0111414 | 3        | nm3739909 | producer | producer | NaN              |
| 3 | tt0323808 | 10       | nm0059247 | editor   | NaN      | NaN              |
| 4 | tt0323808 | 1        | nm3579312 | actress  | NaN      | ["Beth Boothby"] |

In [29]:



gen\_final

Out[29]:

|    | title                          | domestic_gross | year | tconst    | genres                     |
|----|--------------------------------|----------------|------|-----------|----------------------------|
| 0  | Black Panther                  | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi    |
| 1  | Avengers: Infinity War         | 678800000.0    | 2018 | tt4154756 | Action,Adventure,Sci-Fi    |
| 2  | Jurassic World                 | 652300000.0    | 2015 | tt0369610 | Action,Adventure,Sci-Fi    |
| 3  | Star Wars: The Last Jedi       | 620200000.0    | 2017 | tt2527336 | Action,Adventure,Fantasy   |
| 4  | Incredibles 2                  | 608600000.0    | 2018 | tt3606756 | Action,Adventure,Animation |
| 5  | Rogue One: A Star Wars Story   | 532200000.0    | 2016 | tt3748528 | Action,Adventure,Sci-Fi    |
| 6  | Beauty and the Beast (2017)    | 504000000.0    | 2017 | NaN       | NaN                        |
| 7  | Finding Dory                   | 486300000.0    | 2016 | tt2277860 | Adventure,Animation,Comedy |
| 8  | Avengers: Age of Ultron        | 459000000.0    | 2015 | tt2395427 | Action,Adventure,Sci-Fi    |
| 9  | Jurassic World: Fallen Kingdom | 417700000.0    | 2018 | tt4881806 | Action,Adventure,Sci-Fi    |
| 10 | Wonder Woman                   | 412600000.0    | 2017 | tt0451279 | Action,Adventure,Fantasy   |
| 13 | Captain America: Civil War     | 408100000.0    | 2016 | tt3498820 | Action,Adventure,Sci-Fi    |
| 14 | Jumanji: Welcome to the Jungle | 404500000.0    | 2017 | tt2283362 | Action,Adventure,Comedy    |
| 15 | Guardians of the Galaxy Vol. 2 | 389800000.0    | 2017 | tt3896198 | Action,Adventure,Comedy    |
| 16 | The Secret Life of Pets        | 368400000.0    | 2016 | tt2709768 | Adventure,Animation,Comedy |
| 17 | The Jungle Book (2016)         | 364000000.0    | 2016 | NaN       | NaN                        |
| 18 | Deadpool                       | 363100000.0    | 2016 | tt1431045 | Action,Adventure,Comedy    |
| 19 | Inside Out                     | 356500000.0    | 2015 | tt1640486 | Crime,Drama                |
| 27 | Furious 7                      | 353000000.0    | 2015 | tt2820852 | Action,Crime,Thriller      |
| 28 | American Sniper                | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama     |

In [39]:

```
# Merging to get writers codes

writers_codes = gen_final.merge(principals, left_on='tconst', right_on='tconst', how='left')
display(writers_codes)
```

|     | title           | domestic_gross | year | tconst    | genres                  | ordering | nconst    | c |
|-----|-----------------|----------------|------|-----------|-------------------------|----------|-----------|---|
| 0   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 10.0     | nm3234869 | c |
| 1   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 1.0      | nm1569276 |   |
| 2   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 2.0      | nm0430107 |   |
| 3   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 3.0      | nm2143282 |   |
| 4   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 4.0      | nm1775091 |   |
| ... | ...             | ...            | ...  | ...       | ...                     | ...      | ...       |   |
| 177 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 5.0      | nm0000142 |   |
| 178 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 6.0      | nm0355699 |   |
| 179 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 7.0      | nm4881574 |   |
| 180 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 8.0      | nm6984200 |   |
| 181 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 9.0      | nm7198520 |   |

182 rows × 10 columns



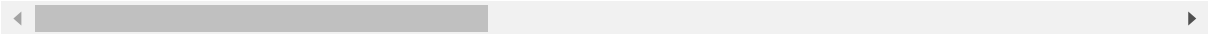
In [40]:

```
# merging to get names of writers from codes

writers=writers_codes.merge(names, left_on='nconst', right_on='nconst', how='left')
display(writers)
```

|     | title           | domestic_gross | year | tconst    | genres                  | ordering | nconst    | c |
|-----|-----------------|----------------|------|-----------|-------------------------|----------|-----------|---|
| 0   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 10.0     | nm3234869 | c |
| 1   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 1.0      | nm1569276 |   |
| 2   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 2.0      | nm0430107 |   |
| 3   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 3.0      | nm2143282 |   |
| 4   | Black Panther   | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 4.0      | nm1775091 |   |
| ... | ...             | ...            | ...  | ...       | ...                     | ...      | ...       |   |
| 177 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 5.0      | nm0000142 |   |
| 178 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 6.0      | nm0355699 |   |
| 179 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 7.0      | nm4881574 |   |
| 180 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 8.0      | nm6984200 |   |
| 181 | American Sniper | 350100000.0    | 2014 | tt2179136 | Action,Biography,Drama  | 9.0      | nm7198520 |   |

182 rows × 15 columns



In [41]:



```
# sorting writers from the dataframe

writers_list = writers[writers['category']== 'writer']
writers_list
```

Out[41]:

|    | title                  | domestic_gross | year | tconst    | genres                  | ordering | nconst    | category |
|----|------------------------|----------------|------|-----------|-------------------------|----------|-----------|----------|
| 6  | Black Panther          | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 6.0      | nm1963288 | writer   |
| 7  | Black Panther          | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 7.0      | nm0498278 | writer   |
| 8  | Black Panther          | 700100000.0    | 2018 | tt1825683 | Action,Adventure,Sci-Fi | 8.0      | nm0456158 | writer   |
| 10 | Avengers: Infinity War | 678800000.0    | 2018 | tt4154756 | Action,Adventure,Sci-Fi | 10.0     | nm0456158 | writer   |
| 17 | Avengers: Infinity     | 678800000.0    | 2018 | tt4154756 | Action,Adventure,Sci-Fi | 7.0      | nm1321655 | writer   |

In [42]:



```
# Writers list

w=(writers_list.loc[:, 'primary_name'])
w
```

Out[42]:

```
6          Joe Robert Cole
7          Stan Lee
8          Jack Kirby
10         Jack Kirby
17        Christopher Markus
18        Stephen McFeely
19         Stan Lee
26         Rick Jaffa
27         Amanda Silver
28         Derek Connolly
29        Michael Crichton
36         George Lucas
50         George Lucas
56         Chris Weitz
57         Tony Gilroy
58         John Knoll
59         Gary Whitta
68        Victoria Strouse
69         Bob Peterson
77         Stan Lee
78         Jack Kirby
79         Joe Simon
80         Jim Starlin
87         Derek Connolly
88         Colin Trevorrow
89        Michael Crichton
91         Harry G. Peter
97         Allan Heinberg
98         Zack Snyder
99         Jason Fuchs
100        William Moulton Marston
101         Jack Kirby
108        Christopher Markus
109        Stephen McFeely
110         Joe Simon
111        Chris Van Allsburg
117         Chris McKenna
118         Erik Sommers
119        Scott Rosenberg
120         Jeff Pinkner
121         Jim Starlin
127         Dan Abnett
128         Andy Lanning
129        Steve Englehart
130         Steve Gan
138         Cinco Paul
139         Ken Daurio
140         Brian Lynch
148         Rhett Reese
149         Paul Wernick
158        Dylan Schaffer
168         Chris Morgan
```

```
169         Gary Scott Thompson
178             Jason Hall
179         Chris Kyle
180         Scott McEwen
181         Jim DeFelice
Name: primary_name, dtype: object
```

In [43]:



```
w.info()
```

```
<class 'pandas.core.series.Series'>
Int64Index: 57 entries, 6 to 181
Series name: primary_name
Non-Null Count  Dtype
-----
57 non-null     object
dtypes: object(1)
memory usage: 912.0+ bytes
```

In [ ]:



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