

# IMDB Movie Analysis

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## Project description ;

In this project we use the dataset of IMDB movies and analyze those data using MS EXCEL . Run queries use graphs and pivot table to get our answer to certain questions.

- A. Your task: Clean the data
- B. Movies with highest profit: Find the movies with the highest profit?
- C. Top 250: Find IMDB Top 250
- D. Best Directors: Find the best directors
- E. Popular Genres: Find popular genres
- F. Charts: Find the critic-favorite and audience-favorite actors

## Approach and Tech Used ;

For this project I used Microsoft Excel to run my queries.

Microsoft Excel is a spreadsheet developed by Microsoft for Windows, macOS, Android and iOS. It features calculation, graphing tools, pivot tables, and a Visual Basic for Applications (VBA).

I used the Excel sheet provided and ran multiple functions to get the

desired answers.

**Approach** ; First I Download the dataset then Approach the solution by performing MS Excel formulas,pivot table. After that I Analyze the solutions and at the end Note them down.

## **Insights ;**

Task 1; clean the data

Answer ; For this task I identify the blank cells , null values ,duplicate values and unwanted column and cluttered row and remove all them from the dataset to get valuable data.

Remove blank cells; first I select all the data with the help of ctrl+a then in the ribbon click on home → find&select → go to special → blanks → ok

After the process click on any selected cell click on delete then delete entire row then ok. After this I cross chek the result and found any blank cell repeat same process to remove them That's how we remove blank cell .

Remove duplicates ; I select all the data with the help of ctrl+a then click on data section in the ribbon and after selecting data section click on remove duplicates. That's how we remove duplicates values.

After understand the whole project I found many columns that are not required for the analysis process so i delete some unwanted columns and cluttered rows from the given dataset to get valuable data. That's how I clean the data and complete the task 1.

**TASK 2 . Movies with highest profit: Find the movies with the highest profit?**

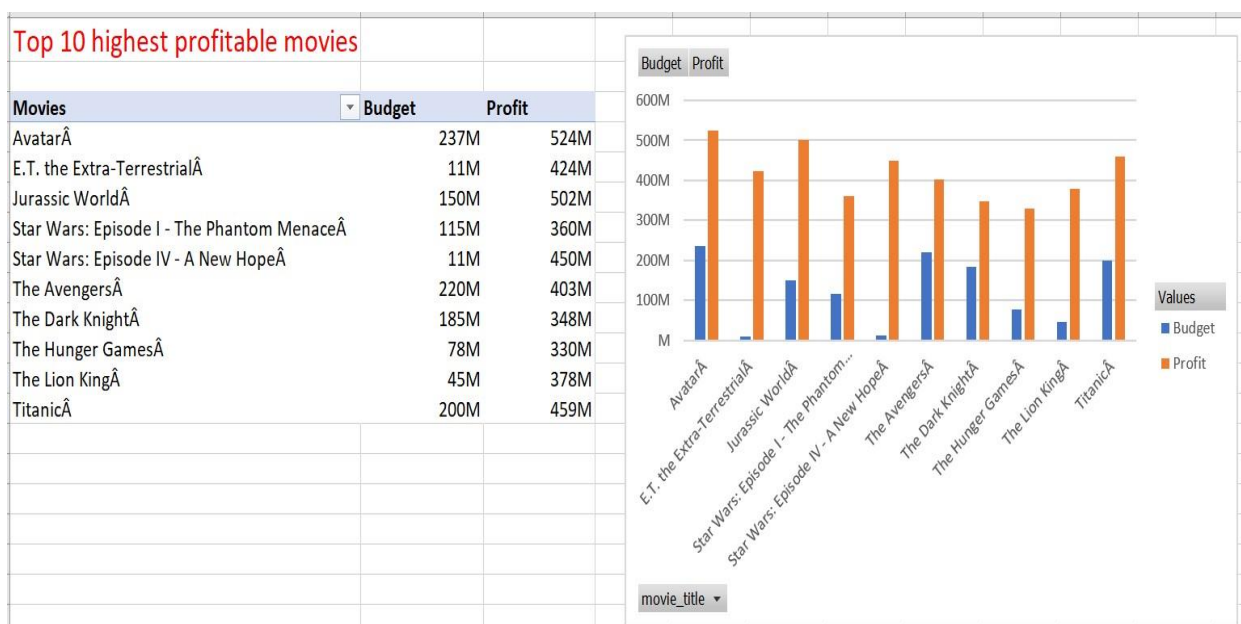
## ANSWER ;

I create a new column called profit which contains the difference of the two columns: gross and budget. For this I assigned column P as movies and column Q for gross and column R for budget and column S for profit then in S2 cell I performed a formula to calculate the profit = Q2-R2 and drag down the S2 cell to get all the result.

Then I sort the column using the profit column as reference. For this I select P,Q,R,S column and then go to the data section in ribbon and in data section I select sort and in the dialog box sortby I select profit column and in sort on I select cell values and in order section I select largest to smallest to get highest profitable movies in descending form. That's how I got highest profitable movies.

Then I select range values to create pivot table. I only select top ten result for top 10 highest profitable movies. And I also use column chart in my pivot table for anylize outliers.

To convert budget and profit in million I select the values then right click on it then go to format cells select category and then select custom and in type I put a formula #,##,"M" and press enter. That's how I got the values in millon.



After using the column chart I am also able to observe the outliers.

Outliers ; E.T. the Extra-Terrestrial , Star Wars: Episode IV - A New Hope

### Task 3 ; Top 250: Find IMDB Top 250

**Answer ;** After understanding the task I extract some data(imdb\_score column,num\_voted\_users column,language column and movie\_title column) from the cleaned dataset and put that data in new worksheet to get desirable result.

For getting highest imdb rating movies I select movie\_title column,language column and imdb\_score column. Then I click on the data section in the ribbon then click on sort and in the dialog box for sort by i select imdb\_score and for sort on I select cell values and for order I select largest to smallest and click on ok. That's how we sort the data using imdb\_score column as reference and got hishest imdb\_score movies in the descending form.

After that step we Also make sure that for all of these movies, the num\_voted\_users is greater than 25,000.

So for this we select movie\_title column,language column and imdb\_score column,num\_voted\_users column.

After selecting the data we go to the ``Data`` tab in the ribbon and click on the ``Filter`` button .

This will add filter icons to each column header. Click on the filter iocn in the header of column num\_voted\_users.

It should look like a downword facing triangle.

In the dropdown menu that appears,uncheck the box for ``Select All`` to clear all the checkboxes. Then click on number filters select greater then after this in custom autofilter box put the value ``25000`` and click ok.

That's how we filter the dataset and display only the movies where the ``num\_voted\_users`` is greater than 25,000.

After this we select all the column except header and scroll down till 250 results.

Then paste the top 250 results in new worksheet . In new worksheet we have IMDB\_TOP\_250 column(column A) and in column B language in column C imdb\_score and in D column num\_voted\_users.

That's how I get top 250 imdb movies.

Then for Also add a Rank column containing the values 1 to 250 indicating the ranks of the corresponding films.

In E2 cell we put a formula =RANK(D2,\$D\$2:\$D\$251,0)

With the help of this formula we get rank for cell 2. We drag E2 cell with the help of ctrl+pgdn till 250 results.

That's how we also add rank for the top 250 movies

At the last we extract all the movies from the IMDB\_Top\_250 column which are not in the English language and store them in a new column named Top\_Foreign\_Lang\_Film.

For this I select IMDB\_Top\_250 column and language column.

After selecting the data we go to the ``Data'' tab in the ribbon and click on the ``Filter'' button .

This will add filter icons to each column header. Click on the filter icon in the header of column language.

It should look like a downward facing triangle.

In the dropdown menu that appears,uncheck the box for ``english'' to clear the English checkbox . Then click on ok.

That's how we filter the dataset and display only the movies which are not in the ``english''.

**IMDB Top 250 Movies list →**

1	IMDB_Top_250	language	imdb_score	num_voted_users	Rank
2	The Shawshank Redemption	English	9.3	886204	7
3	The Godfather	English	9.2	471220	39
4	The Dark Knight	English	9	275868	107
5	The Godfather: Part II	English	9	1144337	3
6	The Lord of the Rings: The Return of the King	English	8.9	212204	137
7	Schindler's List	English	8.9	383056	61
8	Pulp Fiction	English	8.9	294810	99
9	The Good, the Bad and the Ugly	Italian	8.9	462669	42
10	Inception	English	8.8	321795	87
11	The Lord of the Rings: The Fellowship of the Ring	English	8.8	371639	65
12	Fight Club	English	8.8	240396	124
13	Forrest Gump	English	8.8	330784	81
14	Star Wars: Episode V - The Empire Strikes Back	English	8.8	522040	25
15	The Lord of the Rings: The Two Towers	English	8.7	181792	154
16	The Matrix	English	8.7	548573	18
17	Goodfellas	English	8.7	149922	170
18	Star Wars: Episode IV - A New Hope	English	8.7	995415	4
19	One Flew Over the Cuckoo's Nest	English	8.7	370704	66
20	City of God	Portuguese	8.7	268154	113

21	Seven Samurai	Japanese	8.7	354228	72
22	Interstellar	English	8.6	451803	45
23	Saving Private Ryan	English	8.6	211765	140
24	Se7en	English	8.6	483540	37
25	The Silence of the Lambs	English	8.6	149019	172
26	Spirited Away	Japanese	8.6	316018	92
27	American History X	English	8.6	793059	9
28	The Usual Suspects	English	8.6	272670	109
29	Modern Times	English	8.6	202382	143
30	The Dark Knight Rises	English	8.5	418214	51
31	Gladiator	English	8.5	522030	26
32	Terminator 2: Judgment Day	English	8.5	411164	53
33	Django Unchained	English	8.5	557489	16
34	The Departed	English	8.5	306320	96
35	The Lion King	English	8.5	383427	60
36	The Green Mile	English	8.5	235025	126
37	The Prestige	English	8.5	323207	85
38	The Pianist	English	8.5	242420	122
39	Apocalypse Now	English	8.5	175409	157
40	Raiders of the Lost Ark	English	8.5	321227	88
41	Psycho	English	8.5	264183	115

42	Back to the Future	English	8.5	101178	213
43	Alien	English	8.5	223393	133
44	Memento	English	8.5	544884	19
45	Samsara	None	8.5	286095	101
46	Whiplash	English	8.5	278232	106
47	The Lives of Others	German	8.5	465019	40
48	Children of Heaven	Persian	8.5	514125	29
49	WALL·E	English	8.4	395573	56
50	Braveheart	English	8.4	106416	208
51	Amélie	French	8.4	362912	69
52	Star Wars: Episode VI - Return of the Jedi	English	8.4	222403	134
53	Once Upon a Time in America	English	8.4	381148	64
54	Princess Mononoke	Japanese	8.4	326180	84
55	Aliens	English	8.4	333847	79
56	American Beauty	English	8.4	273556	108
57	Lawrence of Arabia	English	8.4	53607	235
58	Das Boot	German	8.4	718837	10
59	Requiem for a Dream	English	8.4	121084	194
60	Oldboy	Korean	8.4	283418	104
61	Reservoir Dogs	English	8.4	72809	220
62	A Separation	Persian	8.4	139593	182

63	Toy Story 3	English	8.3	42372	241
64	Up	English	8.3	286506	100
65	Inside Out	English	8.3	148379	173
66	Batman Begins	English	8.3	1676169	1
67	Inglourious Basterds	English	8.3	665575	13
68	Indiana Jones and the Last Crusade	English	8.3	114553	202
69	L.A. Confidential	English	8.3	696338	11
70	Toy Story	English	8.3	245333	121
71	Scarface	English	8.3	129601	188
72	Eternal Sunshine of the Spotless Mind	English	8.3	117927	199
73	Amadeus	English	8.3	118992	197
74	Raging Bull	English	8.3	115099	201
75	Metropolis	German	8.3	431620	48
76	Unforgiven	English	8.3	144337	179
77	Downfall	German	8.3	174578	158
78	Room	English	8.3	345198	74
79	Snatch	English	8.3	106072	209
80	2001: A Space Odyssey	English	8.3	522371	24
81	Good Will Hunting	English	8.3	228554	131
82	The Sting	English	8.3	252257	119
83	The Hunt	Danish	8.3	317542	90

83	The Hunt	Danish	8.3	317542	90
84	Some Like It Hot	English	8.3	116994	200
85	Hoop Dreams	English	8.3	496749	34
86	Monty Python and the Holy Grail	English	8.3	138661	184
87	Captain America: Civil War	English	8.2	128306	190
88	How to Train Your Dragon	English	8.2	279093	105
89	The Wolf of Wall Street	English	8.2	272534	110
90	Finding Nemo	English	8.2	120798	195
91	A Beautiful Mind	English	8.2	58137	232
92	Casino	English	8.2	485430	36
93	V for Vendetta	English	8.2	305340	97
94	The Thing	English	8.2	682155	12
95	Die Hard	English	8.2	928227	6
96	Blade Runner	English	8.2	1468200	2
97	Gran Torino	English	8.2	272223	111
98	Warrior	English	8.2	459346	43
99	Howl's Moving Castle	Japanese	8.2	518537	28
100	Into the Wild	English	8.2	166137	163
101	Pan's Labyrinth	Spanish	8.2	124185	192
102	The Big Lebowski	English	8.2	82380	218
103	Gone with the Wind	English	8.2	211971	139

104	The Secret in Their Eyes	Spanish	8.2	111609	204
105	Trainspotting	English	8.2	188457	147
106	The Bridge on the River Kwai	English	8.2	106446	207
107	Lock, Stock and Two Smoking Barrels	English	8.2	254111	118
108	The Act of Killing	Indonesian	8.2	513158	30
109	On the Waterfront	English	8.2	138863	183
110	The Avengers	English	8.1	355137	71
111	Guardians of the Galaxy	English	8.1	385670	59
112	Mad Max: Fury Road	English	8.1	343648	75
113	The Revenant	English	8.1	530870	23
114	The Bourne Ultimatum	English	8.1	320284	89
115	Pirates of the Caribbean: The Curse of the Black Pearl	English	8.1	473887	38
116	Monsters, Inc.	English	8.1	980946	5
117	The Martian	English	8.1	146019	178
118	Shutter Island	English	8.1	130272	187
119	Jurassic Park	English	8.1	361924	70
120	Gone Girl	English	8.1	364948	68
121	The Truman Show	English	8.1	421658	50
122	Deadpool	English	8.1	421818	49
123	Kill Bill: Vol. 1	English	8.1	414070	52
124	Prisoners	English	8.1	552503	17



125	The Sixth Sense	English	8.1	207839	141
126	Sin City	English	8.1	536314	21
127	Rush	English	8.1	146766	176
128	The Grand Budapest Hotel	English	8.1	33042	248
129	Million Dollar Baby	English	8.1	152826	168
130	The Help	English	8.1	199039	145
131	No Country for Old Men	English	8.1	232187	128
132	There Will Be Blood	English	8.1	89442	216
133	12 Years a Slave	English	8.1	105902	210
134	Spotlight	English	8.1	182718	152
135	Hotel Rwanda	English	8.1	118951	198
136	The Imitation Game	English	8.1	256695	116
137	The Princess Bride	English	8.1	164238	164
138	The Sea Inside	Spanish	8.1	85086	217
139	Tae Guk Gi: The Brotherhood of War	Korean	8.1	39956	243
140	Stand by Me	English	8.1	47900	238
141	Akira	Japanese	8.1	381672	63
142	Elite Squad	Portuguese	8.1	119213	196
143	The Terminator	English	8.1	169914	160
144	Platoon	English	8.1	69757	223
145	Butch Cassidy and the Sundance Kid	English	8.1	322395	86

146	Donnie Darko	English	8.1	270207	112
147	Annie Hall	English	8.1	142440	180
148	The Wizard of Oz	English	8.1	64322	226
149	Before Sunrise	English	8.1	365104	67
150	The Best Years of Our Lives	English	8.1	123553	193
151	Amores Perros	Spanish	8.1	110788	205
152	In the Shadow of the Moon	English	8.1	317166	91
153	The Celebration	Danish	8.1	128682	189
154	Rocky	English	8.1	504419	32
155	Woodstock	English	8.1	544665	20
156	X-Men: Days of Future Past	English	8	221128	135
157	Ratatouille	English	8	51892	237
158	Star Trek	English	8	45455	239
159	Life of Pi	English	8	392474	57
160	Casino Royale	English	8	127497	191
161	Blood Diamond	English	8	212106	138
162	The Incredibles	English	8	146352	177
163	Cinderella Man	English	8	77673	219
164	Big Fish	English	8	72259	221
165	The Pursuit of Happyness	English	8	508818	31
166	Kill Bill: Vol. 2	English	8	157519	166

167	Catch Me If You Can	English	8	168207	161
168	The Iron Giant	English	8	185394	148
169	JFK	English	8	32399	249
170	Serenity	English	8	326286	83
171	Blood In, Blood Out	English	8	406020	54
172	District 9	English	8	62424	227
173	Mystic River	English	8	183208	150
174	Aladdin	English	8	60230	230
175	Rain Man	English	8	491077	35
176	Her	English	8	307029	95
177	Dances with Wolves	English	8	313866	94
178	Dead Poets Society	English	8	498397	33
179	The Artist	English	8	70121	222
180	The King's Speech	English	8	334345	78
181	Brazil	English	8	178126	155
182	In Bruges	English	8	114287	203
183	Mulholland Drive	English	8	245621	120
184	Slumdog Millionaire	English	8	200022	144
185	Black Swan	English	8	177383	156
186	The Perks of Being a Wallflower	English	8	382255	62
187	True Romance	English	8	102338	211

188	Dancer in the Dark	English	8	158720	165
189	The Exorcist	English	8	38438	244
190	Jaws	English	8	67223	224
191	Casino Royale	English	8	172754	159
192	Doctor Zhivago	English	8	444683	46
193	The Straight Story	English	8	91640	215
194	Fiddler on the Roof	English	8	809474	8
195	Sicko	English	8	305008	98
196	My Name Is Khan	Hindi	8	314253	93
197	The Sound of Music	English	8	58498	231
198	Persepolis	French	8	405973	55
199	Dallas Buyers Club	English	8	284792	103
200	Shaun of the Dead	English	8	338635	76
201	Sling Blade	English	8	229679	130
202	Boyhood	English	8	240241	125
203	Bowling for Columbine	English	8	101411	212
204	Central Station	Portuguese	8	229823	129
205	Young Frankenstein	English	8	189855	146
206	Before Sunset	English	8	141414	181
207	Waltz with Bashir	Hebrew	8	333248	80
208	A Fistful of Dollars	Italian	8	242188	123

209	Avatar	English	7.9	133076	186
210	The Hobbit: The Desolation of Smaug	English	7.9	213275	136
211	Iron Man	English	7.9	440084	47
212	Edge of Tomorrow	English	7.9	182661	153
213	Big Hero 6	English	7.9	40123	242
214	How to Train Your Dragon 2	English	7.9	100821	214
215	Toy Story 2	English	7.9	456260	44
216	Children of Men	English	7.9	36471	246
217	The Insider	English	7.9	338087	77
218	The Hateful Eight	English	7.9	183909	149
219	The Bourne Identity	English	7.9	182899	151
220	Almost Famous	English	7.9	57873	233
221	Captain Phillips	English	7.9	35066	247
222	Shrek	English	7.9	148280	174
223	Hero	Mandarin	7.9	387436	58
224	The Notebook	English	7.9	520104	27
225	Glory	English	7.9	464310	41
226	Walk the Line	English	7.9	585659	14
227	Straight Outta Compton	English	7.9	328067	82
228	The Blues Brothers	English	7.9	534658	22
229	The Right Stuff	English	7.9	150618	169

229	The Right Stuff	English	7.9	150618	169
230	Taken	English	7.9	55994	234
231	The Untouchables	English	7.9	37750	245
232	The World's Fastest Indian	English	7.9	167085	162
233	Edward Scissorhands	English	7.9	582917	15
234	Glory	English	7.9	62271	228
235	Ed Wood	English	7.9	110486	206
236	My Fair Lady	English	7.9	234480	127
237	Halloween	English	7.9	147497	175
238	Hot Fuzz	English	7.9	149680	171
239	Crouching Tiger, Hidden Dragon	Mandarin	7.9	207613	142
240	The Remains of the Day	English	7.9	284852	102
241	Boogie Nights	English	7.9	348861	73
242	Letters from Iwo Jima	Japanese	7.9	154621	167
243	Ernest & Celestine	French	7.9	264318	114
244	The Fighter	English	7.9	53160	236
245	E.T. the Extra-Terrestrial	English	7.9	136019	185
246	Crash	English	7.9	225273	132
247	Amour	French	7.9	66593	225
248	Little Miss Sunshine	English	7.9	44296	240
249	The Wrestler	English	7.9	254841	117

244	The Fighter	English	7.9	53160	236
245	E.T. the Extra-Terrestrial	English	7.9	136019	185
246	Crash	English	7.9	225273	132
247	Amour	French	7.9	66593	225
248	Little Miss Sunshine	English	7.9	44296	240
249	The Wrestler	English	7.9	254841	117
250	The Chorus	French	7.9	27257	250
251	Do the Right Thing	English	7.9	60573	229

## Top Foreign language movies list→

1	Top_Foreign_Lang_Film	language
2	The Good, the Bad and the Ugly	Italian
3	City of God	Portuguese
4	Seven Samurai	Japanese
5	Spirited Away	Japanese
6	Samsara	None
7	The Lives of Others	German
8	Children of Heaven	Persian
9	Amélie	French
10	Princess Mononoke	Japanese
11	Das Boot	German
12	Oldboy	Korean
13	A Separation	Persian
14	Metropolis	German
15	Downfall	German
16	The Hunt	Danish
17	Howl's Moving Castle	Japanese
18	Pan's Labyrinth	Spanish
19	The Secret in Their Eyes	Spanish
20	The Act of Killing	Indonesian

21	The Sea Inside	Spanish
22	Tae Guk Gi: The Brotherhood of War	Korean
23	Akira	Japanese
24	Elite Squad	Portuguese
25	Amores Perros	Spanish
26	The Celebration	Danish
27	My Name Is Khan	Hindi
28	Persepolis	French
29	Central Station	Portuguese
30	Waltz with Bashir	Hebrew
31	A Fistful of Dollars	Italian
32	Hero	Mandarin
33	Crouching Tiger, Hidden Dragon	Mandarin
34	Letters from Iwo Jima	Japanese
35	Ernest & Celestine	French
36	Amour	French
37	The Chorus	French

#### Task 4. Best Directors: Find the best directors

**Answer ;**

For find out the top 10 directors we select all the data from the cleaned dataset and create a new pivot table.

In the new pivot table we only took two column from Pivot Table Fields. In the rows we took director\_name column and in the values we took imdb\_score column with the mean or average. For sort the director\_name column we have a filter icon on the column head.click on the filter icon in the header of director\_name column and in value filters we select top 10 filter only and click ok. That's how I get top 10 directors with the highest mean of imdb\_score.we also sort them alphabetically by using filter icon. And with help of decimal decrease function in ribbon we decrease decimal for those result who has extra or more then one decimal value.

#### **Best Directors -;**

Following are the top 10 directors with the highest mean of imdb\_score.

top10director	Mean of imdb_score
Akira Kurosawa	8.7
Alfred Hitchcock	8.5
Asghar Farhadi	8.4
Charles Chaplin	8.6
Christopher Nolan	8.4
Damien Chazelle	8.5
Majid Majidi	8.5
Richard Marquand	8.4
Ron Fricke	8.5
Sergio Leone	8.4

### Task 5. Popular Genres: Find popular genres

**Answer ;** To find popular genres I select all the data using ctrl+a from the clean dataset and create a pivot table. Then I select genres for rows in Pivot Table Fields and in values I also select genres to count the genres. Then I click on filter icon in the header of column genres then I click on value filters and select top 10 results on the basis of count of genres .  
 Afters this I sort the data in the descending order on the basis of count of genres using filter icon in the header of column genres. That's how I got top 10 genres .

### Top 10 popular genres →

genres	Count of genres
Comedy Drama Romance	147
Drama	140
Comedy	137
Comedy Drama	137
Comedy Romance	131
Drama Romance	114
Crime Drama Thriller	81
Action Crime Thriller	55
Action Crime Drama Thriller	50
Action Adventure Sci-Fi	46

### Task 6. Charts: Find the critic-favorite and audience-favorite actors

**Answer ;** we select all the data from the cleaned dataset with the help of ctrl+a. Then I go to insert and create new pivot table.

In the right of pivot table we have pivot table fields. In pivot fields we have rows we select movie\_title and actor\_1\_name in the rows. Then we go the filter icon uncheck the select all box then select only brad pitt and click ok (we use actor\_1\_name column as reference)that's how I get only brad pitt movies copy that data and paste it in the Brad\_pitt column. I do same for meryl streep and Leonardo dicaprio.

List of movies of these 3 actors ->

Brad_Pitt	Leo_Caprio	Meryl_Streep
Babel	Blood Diamond	A Prairie Home Companion
By the Sea	Body of Lies	Hope Springs
Fight Club	Catch Me If You Can	It's Complicated
Fury	Django Unchained	Julie & Julia
Interview with the Vampire: The Vampire Chronicles	Gangs of New York	Lions for Lambs
Killing Them Softly	Inception	One True Thing
Mr. & Mrs. Smith	J. Edgar	Out of Africa
Ocean's Eleven	Marvin's Room	The Devil Wears Prada
Ocean's Twelve	Revolutionary Road	The Hours
Seven Years in Tibet	Romeo + Juliet	The Iron Lady
Sinbad: Legend of the Seven Seas	Shutter Island	The River Wild
Spy Game	The Aviator	
The Assassination of Jesse James by the Coward Robert Ford	The Beach	
The Curious Case of Benjamin Button	The Departed	
The Tree of Life	The Great Gatsby	
Troy	The Man in the Iron Mask	
True Romance	The Quick and the Dead	
	The Revenant	
	The Wolf of Wall Street	
	Titanic	

Find the critic-favorite and audience-favorite actors ;

Using pivot table I find the critic-favorite and audience-favorite actors,

actor_1_name	Mean of num_critic_for_reviews	Mean of num_user_for_reviews
Brad Pitt	245	742.35
Leonardo DiCaprio	330.19	914.48
Meryl Streep	181.45	297.18

We can see that the Leonardo dicaprio is the critic-favorite and audience-favorite actor.

Chart ;

Observe the change in number of voted users over decades using a bar chart.

For this we select three column from the cleaned dataset movie\_title, title\_year, num\_voted\_users and paste in new worksheet. Then we insert new column called decade. This column will be used to store the decade values. This new column is column D, and the first cell is D2.

In cell D2, enter the following formula to calculate the decade

```
=CONCATENATE(LEFT(B2, 3), "0s")
```

To get all the results we drag the column with the help of ctrl+pgdn.

Decade	Sum of num_voted_users
1920	116387
1930	804839
1940	159517
1950	678336
1960	2982551
1970	8523299
1980	19987476
1990	69581866
2000	170711435
2010	119432961

Now, click on the "Sort & Filter" button in the Excel ribbon and sort the entire dataset based on the "Decade" column (column D).

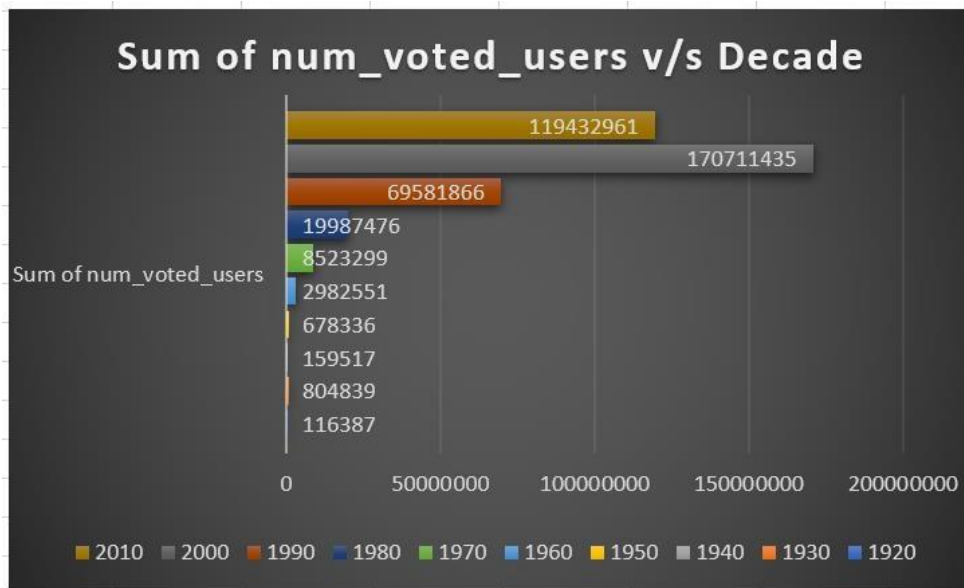
With the dataset sorted, select the entire dataset (including the column headers) and go to the "Data" tab in the Excel ribbon.

In the "Outline" group, click on the "Subtotal" button.

A dialog box will appear."At each change in" option is selected as "Decade" (column D). Also, choose the "Sum" function for the "Users Voted" column (column C). Then, click on "OK".

That's how I get sum of num\_voted\_users and decade and then we use bar chart to observe the change in number of voted users over decades.





## Result ;

Through the IMDB Movie Analysis project I have gained various logical, statistics, and technical skills for get desired answers from the dataset. I have theoretical knowledge of excel and statistics so this project also boost my practical knowledge and increase my confidence to deal with the data. Surely the knowledge I have gain through this project will help me to understand the data in real world case scenarios.