IMDB Movie Analysis

Provided with dataset having various columns of different IMDB Movies.

We are required to provide a detailed report for the below data record mentioning the answers of the questions that follows.
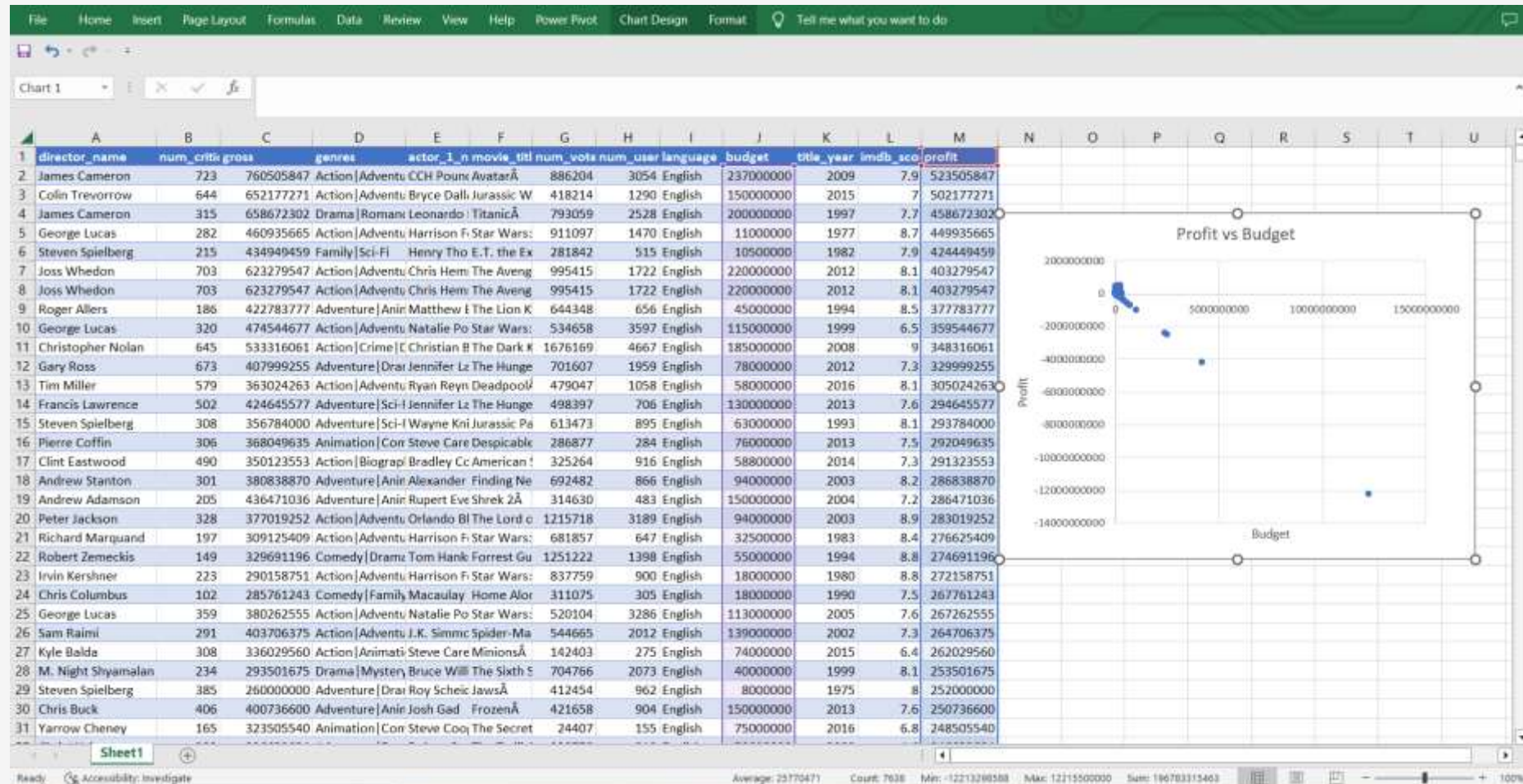
Tech stack used: MS Excel

By,

Lohith Kumar .A

1.Cleaning the data:: PThis is one of the most important step to perform before moving forward with the analysis. Use your knowledge learned till now to do this. (Dropping columns, removing null values, etc.)

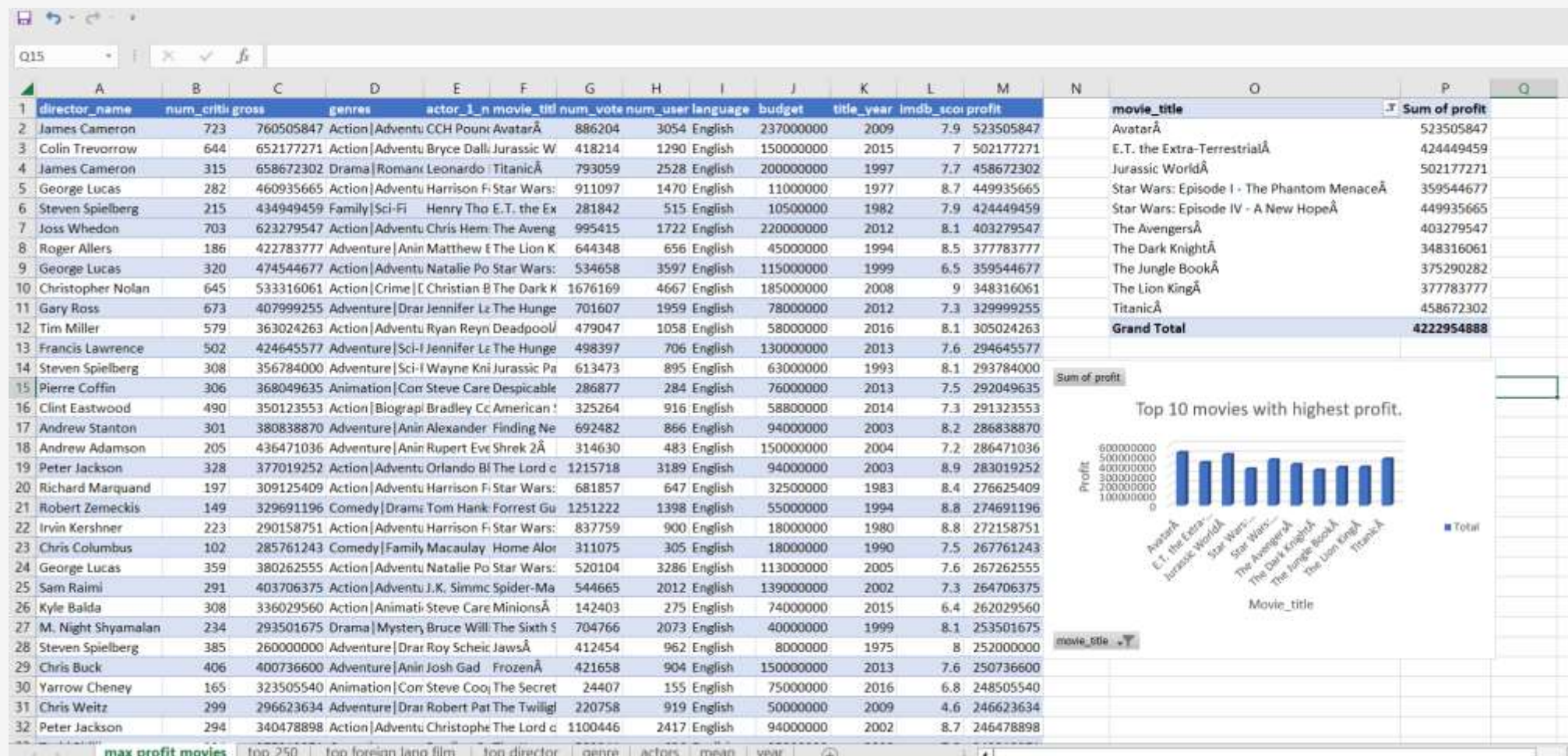**Your task:** Clean the data

Before Cleaning:-

A2. There are more than 10 columns which are not needed for our analysis and it has been shown in this slide.
There are blanks in many columns and it has beenremoved.The 'movie_title' column needs some cleaning as it contains extra alphabets.
There are few rows with wrong director names and those are removed.

director_name	num_critic_for_reviews	gross	genres	actor_1_name	movie_title	num_voted_users	num_user_for_reviews	language	budget	title_year	imdb_score	Column2	Colum
James Cameron	723	7.61E+08	Action|Ad	CCH Pounder	AvatarÃ	886204	3054	English	2.37E+08	2009	7.9		
Gore Verbinski	302	3.09E+08	Action|Ad	Johnny Depp	Pirates of the (	471220	1238	English	3E+08	2007	7.1		
Sam Mendes	602	2E+08	Action|Ad	Christoph Waltz	SpectreÃ	275868	994	English	2.45E+08	2015	6.8		
Christopher Nolan	813	4.48E+08	Action|Th	Tom Hardy	The Dark Knigh	1144337	2701	English	2.5E+08	2012	8.5		
Andrew Stanton	462	73058679	Action|Ad	Daryl Sabara	John CarterÃ	212204	738	English	2.64E+08	2012	6.6		
Sam Raimi	392	3.37E+08	Action|Ad	J.K. Simmons	Spider-Man 3Ã	383056	1902	English	2.58E+08	2007	6.2		
Nathan Greno	324	2.01E+08	Adventure	Brad Garrett	TangledÃ	294810	387	English	2.6E+08	2010	7.8		
Joss Whedon	635	4.59E+08	Action|Ad	Chris Hemsworth	Avengers: Age	462669	1117	English	2.5E+08	2015	7.5		
David Yates	375	3.02E+08	Adventure	Alan Rickman	Harry Potter ar	321795	973	English	2.5E+08	2009	7.5		
Zack Snyder	673	3.3E+08	Action|Ad	Henry Cavill	Batman v Supe	371639	3018	English	2.5E+08	2016	6.9		
Bryan Singer	434	2E+08	Action|Ad	Kevin Spacey	Superman Retu	240396	2367	English	2.09E+08	2006	6.1		
Marc Forster	403	1.68E+08	Action|Ad	Giancarlo Giannini	Quantum of Sc	330784	1243	English	2E+08	2008	6.7		
Gore Verbinski	313	4.23E+08	Action|Ad	Johnny Depp	Pirates of the (	522040	1832	English	2.25E+08	2006	7.3		
Gore Verbinski	450	89289910	Action|Ad	Johnny Depp	The Lone Rang	181792	711	English	2.15E+08	2013	6.5		
Zack Snyder	733	2.91E+08	Action|Ad	Henry Cavill	Man of SteelÃ	548573	2536	English	2.25E+08	2013	7.2		
Andrew Adamson	258	1.42E+08	Action|Ad	Peter Dinklage	The Chronicles	149922	438	English	2.25E+08	2008	6.6		
Joss Whedon	703	6.23E+08	Action|Ad	Chris Hemsworth	The AvengersÃ	995415	1722	English	2.2E+08	2012	8.1		
Rob Marshall	448	2.41E+08	Action|Ad	Johnny Depp	Pirates of the (	370704	484	English	2.5E+08	2011	6.7		
Barry Sonnenfeld	451	1.79E+08	Action|Ad	Will Smith	Men in Black 3	268154	341	English	2.25E+08	2012	6.8		
Peter Jackson	422	2.55E+08	Adventure	Aidan Turner	The Hobbit: Th	354228	802	English	2.5E+08	2014	7.5		
Marc Webb	599	2.62E+08	Action|Ad	Emma Stone	The Amazing S	451803	1225	English	2.3E+08	2012	7		
Ridley Scott	343	1.05E+08	Action|Ad	Mark Addy	Robin HoodÃ	211765	546	English	2E+08	2010	6.7		
Peter Jackson	509	2.58E+08	Adventure	Aidan Turner	The Hobbit: Th	483540	951	English	2.25E+08	2013	7.9		
Chris Weitz	251	70083519	Adventure	Christopher Lee	The Golden Co	149019	666	English	1.8E+08	2007	6.1		
Peter Jackson	446	2.18E+08	Action|Ad	Naomi Watts	King KongÃ	316018	2618	English	2.07E+08	2005	7.2		
James Cameron	315	6.59E+08	Drama|Ro	Leonardo DiCapric	TitanicÃ	793059	2528	English	2E+08	1997	7.7		
Anthony Russo	516	4.07E+08	Action|Ad	Robert Downey Jr	Captain Americ	272670	1022	English	2.5E+08	2016	8.2		
Peter Berg	377	65173160	Action|Ad	Liam Neeson	BattleshipÃ	202382	751	English	2.09E+08	2012	5.9		
Colin Trevorrow	644	6.52E+08	Action|Ad	Bryce Dallas Howa	Jurassic World.	418214	1290	English	1.5E+08	2015	7		
Sam Mendes	750	3.04E+08	Action|Ad	Albert Finney	SkyfallÃ	522030	1498	English	2E+08	2012	7.8		

imdb2

B.1 Movies with highest profit: Create a new column called profit which contains the difference of the two columns: gross and budget. Sort the column using the profit column as reference. Plot profit (y-axis) vs budget (x- axis) and observe the outliers using the appropriate chart type.

B.2 **Your task:** Find the movies with the highest profit?

C.1 Top 250: Create a new column IMDb_Top_250 and store the top 250 movies with the highest IMDb Rating (corresponding to the column: imdb_score). Also make sure that for all of these movies, the num_voted_users is greater than 25,000. Also add a Rank column containing the values 1 to 250 indicating the ranks of the corresponding films.

	A	B	C	D
1	Imdb_Top_250	imdb_score	Rank	num_voted_users >25000
2	The Shawshank RedemptionÂ	9.3	1	886204
3	The GodfatherÂ	9.2	2	418214
4	The Dark KnightÂ	9	3	793059
5	The Godfather: Part IIÂ	9	3	911097
6	The Lord of the Rings: The Retur	8.9	5	281842
7	Pulp FictionÂ	8.9	5	995415
8	Schindler's ListÂ	8.9	5	644348
9	The Good, the Bad and the Ugly	8.9	5	534658
10	Forrest GumpÂ	8.8	9	1676169
11	Star Wars: Episode V - The Empi	8.8	9	701607
12	The Lord of the Rings: The Fello	8.8	9	479047
13	InceptionÂ	8.8	9	498397
14	Fight ClubÂ	8.8	9	613473
15	Star Wars: Episode IV - A New H	8.7	14	286877
16	The Lord of the Rings: The Two T	8.7	14	325264
17	The MatrixÂ	8.7	14	692482
18	One Flew Over the Cuckoo's Nes	8.7	14	314630
19	GoodfellasÂ	8.7	14	1215718
20	City of GodÂ	8.7	14	681857
21	Seven SamuraiÂ	8.7	14	1251222
22	Saving Private RyanÂ	8.6	21	837759
23	The Silence of the LambsÂ	8.6	21	311075
24	Se7enÂ	8.6	21	520104
25	InterstellarÂ	8.6	21	544665
26	The Usual SuspectsÂ	8.6	21	142403
27	American History XÂ	8.6	21	704766
28	Modern TimesÂ	8.6	21	412454
29	Spirited AwayÂ	8.6	21	421658
30	The Lion KingÂ	8.5	29	24407
31	Raiders of the Lost ArkÂ	8.5	29	220758
32	The Dark Knight RisesÂ	8.5	29	1100446
33	Back to the FutureÂ	8.5	29	583341
34	Terminator 2: Judgment DayÂ	8.5	29	102071
35	GladiatorÂ	8.5	29	184637
36	The Green MileÂ	8.5	29	430055
37	AlienÂ	8.5	29	223127
38	Django UnchainedÂ	8.5	29	661017
39	Apocalypse NowÂ	8.5	29	1238746
40	The DepartedÂ	8.5	29	126464
41	PsychoÂ	8.5	29	269033
42	MementoÂ	8.5	29	544884
43	The PrestigeÂ	8.5	29	305008
44	WhiplashÂ	8.5	29	557489
45	The Lives of OthersÂ	8.5	29	462669
46	Children of HeavenÂ	8.5	29	467113
47	SamsaraÂ	8.5	29	323207
48	The PianistÂ	8.5	29	211296

	A	B	C	D
52	WALL·EÂ	8.4	48	284252
53	A SeparationÂ	8.4	48	464310
54	BraveheartÂ	8.4	48	154199
55	Reservoir DogsÂ	8.4	48	215340
56	The Other Dream TeamÂ	8.4	48	181380
57	OldboyÂ	8.4	48	444683
58	Requiem for a DreamÂ	8.4	48	732212
59	Das BootÂ	8.4	48	260939
60	Lawrence of ArabiaÂ	8.4	48	106072
61	Baahubali: The BeginningÂ	8.4	48	106221
62	Once Upon a Time in AmericaÂ	8.4	48	133348
63	AmÃ©lieÂ	8.4	48	385943
64	Princess MononokeÂ	8.4	48	345198
65	Toy Story 3Â	8.3	64	696338
66	Inside OutÂ	8.3	64	170027
67	Toy StoryÂ	8.3	64	585659
68	The StingÂ	8.3	64	375879
69	Indiana Jones and the Last Crus	8.3	64	411164
70	Good Will HuntingÂ	8.3	64	181225
71	UpÂ	8.3	64	185394
72	UnforgivenÂ	8.3	64	185394
73	Batman BeginsÂ	8.3	64	479166
74	Inglourious BasterdsÂ	8.3	64	513158
75	2001: A Space OdysseyÂ	8.3	64	471644
76	AmadeusÂ	8.3	64	74743
77	L.A. ConfidentialÂ	8.3	64	809474
78	SnatchÂ	8.3	64	213476
79	SnatchÂ	8.3	64	682155
80	Some Like It HotÂ	8.3	64	186485
81	ScarfaceÂ	8.3	64	387616
82	Eternal Sunshine of the Spotles	8.3	64	623757
83	Hoop DreamsÂ	8.3	64	219171
84	RoomÂ	8.3	64	296904
85	Monty Python and the Holy Grail	8.3	64	211971
86	No End in SightÂ	8.3	64	403014
87	The HuntÂ	8.3	64	278232
88	MetropolisÂ	8.3	64	326180
89	DownfallÂ	8.3	64	57276
90	Raging BullÂ	8.3	64	272670
91	Finding NemoÂ	8.2	90	36918
92	Gone with the WindÂ	8.2	90	278362
93	Captain America: Civil WarÂ	8.2	90	271592
94	Gran TorinoÂ	8.2	90	385871
95	A Beautiful MindÂ	8.2	90	200077
96	Die HardÂ	8.2	90	77366
97	How to Train Your DragonÂ	8.2	90	148172
98	The Bridge on the River KwaiÂ	8.2	90	348007
99	Uncle LabyrinthÂ	8.2	90	146949

	A	B	C	D
207	Cinderella ManÂ	8	157	103737
208	Blood In, Blood OutÂ	8	157	103749
209	Blood DiamondÂ	8	157	405973
210	The Iron GiantÂ	8	157	522030
211	Winged MigrationÂ	8	157	522048
212	AvatarÂ	7.9	211	248045
213	E.T. the Extra-TerrestrialÂ	7.9	211	189923
214	ShrekÂ	7.9	211	744891
215	Iron ManÂ	7.9	211	334345
216	Toy Story 2Â	7.9	211	265818
217	Straight Outta ComptonÂ	7.9	211	114610
218	The Hobbit: An Unexpected Jour	7.9	211	31260
219	TakenÂ	7.9	211	422606
220	Crouching Tiger, Hidden Dragon	7.9	211	181879
221	Walk the LineÂ	7.9	211	348232
222	The FighterÂ	7.9	211	300542
223	The Bourne IdentityÂ	7.9	211	55816
224	Big Hero 6Â	7.9	211	54010
225	My Fair LadyÂ	7.9	211	115050
226	Captain PhillipsÂ	7.9	211	1324680
227	Little Miss SunshineÂ	7.9	211	30058
228	The UntouchablesÂ	7.9	211	97664
229	CrashÂ	7.9	211	72324
230	CrashÂ	7.9	211	76828
231	HalloweenÂ	7.9	211	75152
232	HalloweenÂ	7.9	211	402645
233	HalloweenÂ	7.9	211	132501
234	Edward ScissorhandsÂ	7.9	211	224671
235	The Hobbit: The Desolation of S	7.9	211	47794
236	How to Train Your Dragon 2Â	7.9	211	153468
237	The Blues BrothersÂ	7.9	211	89972
238	NightcrawlerÂ	7.9	211	87538
239	Do the Right ThingÂ	7.9	211	408302
240	The WrestlerÂ	7.9	211	152089
241	Hot FuzzÂ	7.9	211	107408
242	The Remains of the DayÂ	7.9	211	260981
243	Boogie NightsÂ	7.9	211	145852
244	The Hateful EightÂ	7.9	211	238671
245	OnceÂ	7.9	211	185338
246	GloryÂ	7.9	211	185345
247	GloryÂ	7.9	211	551363
248	Before MidnightÂ	7.9	211	44096
249	4 Months, 3 Weeks and 2 DaysÂ	7.9	211	314253
250	MoonÂ	7.9	211	143696
251	The ChorusÂ	7.9	211	145974

C.2 Extract all the movies in the IMDb_Top_250 column which are not in the English language and store them in a new column named Top_Foreign_Lang_Film. You can use your own imagination also!
Your task: Find IMDB Top 250

number	Top_foreign_lang_film	language	imdb_score
9	9 The Good, the Bad and the UglyÂ	Italian	8.9
20	20 City of GodÂ	Portuguese	8.7
21	21 Seven SamuraiÂ	Japanese	8.7
29	29 Spirited AwayÂ	Japanese	8.6
45	45 The Lives of OthersÂ	German	8.5
46	46 Children of HeavenÂ	Persian	8.5
47	47 SamsaraÂ	None	8.5
53	53 A SeparationÂ	Persian	8.4
57	57 OldboyÂ	Korean	8.4
59	59 Das BootÂ	German	8.4
61	61 Baahubali: The BeginningÂ	Telugu	8.4
63	63 AmÃ©lieÂ	French	8.4
64	64 Princess MononokeÂ	Japanese	8.4
87	87 The HuntÂ	Danish	8.3
88	88 MetropolisÂ	German	8.3
89	89 DownfallÂ	German	8.3
99	99 Pan's LabyrinthÂ	Spanish	8.2
107	107 IncendiesÂ	French	8.2
108	108 The Act of KillingÂ	Indonesian	8.2
113	113 Howl's Moving CastleÂ	Japanese	8.2
151	151 The CelebrationÂ	Danish	8.1
155	155 The Sea InsideÂ	Spanish	8.1
157	157 Tae Guk Gi: The Brotherhood of War	Korean	8.1
191	191 A Fistful of DollarsÂ	Italian	8
193	193 Central StationÂ	Portuguese	8
195	195 Waltz with BashirÂ	Hebrew	8
197	197 PersepolisÂ	French	8
203	203 My Name Is KhanÂ	Hindi	8
220	220 Crouching Tiger, Hidden DragonÂ	Mandarin	7.9
249	249 4 Months, 3 Weeks and 2 DaysÂ	Romanian	7.9

D.Best Directors: TGroup the column using the director_name column.
Find out the top 10 directors for whom the mean of imdb_score is the highest and store them in a new column top10director. In case of a tie in IMDb score between two directors, sort them alphabetically.
Your task: Find the best directors

Top_10_director	Average of imdb_score
Charles Chaplin	8.6
Tony Kaye	8.6
Alfred Hitchcock	8.5
Damien Chazelle	8.5
Majid Majidi	8.5
Ron Fricke	8.5
Asghar Farhadi	8.4
Christopher Nolan	8.4
Marius A. Markevicius	8.4
Richard Marquand	8.4
S.S. Rajamouli	8.4
Sergio Leone	8.4
Grand Total	**8.5**

E.Popular Genres: Perform this step using the knowledge gained while performing previous steps.
Your task: Find popular genres

genres	Popularity measure
Comedy|Drama|Romance	149
Drama	147
Comedy	147
Comedy|Drama	141
Comedy|Romance	134
Drama|Romance	117
Crime|Drama|Thriller	82
Action|Crime|Thriller	56
Action|Crime|Drama|Thriller	48
Comedy|Crime	47
Action|Adventure|Sci-Fi	47
Action|Adventure|Thriller	45
Horror	42
Crime|Drama|Mystery|Thriller	42
Crime|Drama	41
Drama|Thriller	40
Horror|Thriller	36
Action|Adventure|Sci-Fi|Thriller	34
Horror|Mystery|Thriller	33
Biography|Drama	29
Drama|Mystery|Thriller	28
Adventure|Animation|Comedy|Family|Fantasy	28
Action|Comedy|Crime	27
Horror|Mystery	25
Action|Adventure|Fantasy	25
Biography|Drama|Sport	23
Drama|Music	22
Drama|Sport	22
Action|Thriller	22
Documentary	21
Adventure|Animation|Comedy|Family	21
Action|Comedy|Crime|Thriller	21
Comedy|Family	20
Biography|Drama|History	20
Action|Crime|Drama|Mystery|Thriller	19
Action|Drama|Thriller	18
Adventure|Family|Fantasy	18
Comedy|Crime|Drama	17

genres	Popularity measure
Adventure|Family|Fantasy	18
Comedy|Crime|Drama	17
Comedy|Family|Fantasy	17
Drama|Music|Romance	17
Drama|History|War	17
Action|Sci-Fi	17
Drama|War	16
Mystery|Thriller	16
Comedy|Sport	16
Crime|Drama|Romance|Thriller	15
Biography|Crime|Drama	15
Crime|Thriller	15
Biography|Drama|Romance	15
Comedy|Fantasy	15
Comedy|Crime|Thriller	14
Comedy|Music	14
Adventure|Comedy	14
Action|Horror|Sci-Fi|Thriller	14
Fantasy|Horror	13
Crime|Mystery|Thriller	13
Comedy|Fantasy|Romance	13
Comedy|Drama|Romance|Sport	13
Action|Comedy	13
Action|Sci-Fi|Thriller	13
Drama|Mystery|Romance|Thriller	12
Comedy|Drama|Music	12
Drama|Mystery|Sci-Fi|Thriller	12
Horror|Sci-Fi|Thriller	12
Drama|Fantasy|Romance	12
Action|Adventure|Fantasy|Sci-Fi	12
Action|Adventure|Drama|Thriller	12
Action|Adventure|Fantasy|Sci-Fi|Thriller	12
Comedy|Drama|Fantasy|Romance	11
Drama|Sci-Fi|Thriller	11
Comedy|Drama|Family	11
Comedy|Family|Romance	11
Comedy|Crime|Romance	11
Adventure|Comedy|Family|Fantasy	11
Biography|Drama|Music	10
Action|Adventure|Comedy	10
Adventure|Animation|Family|Fantasy	10

F.1 Charts: Create three new columns namely, Meryl_Streep, Leo_Caprio, and Brad_Pitt which contain the movies in which the actors: 'Meryl Streep', 'Leonardo DiCaprio', and 'Brad Pitt' are the lead actors. Use only the actor_1_name column for extraction. Also, make sure that you use the names 'Meryl Streep', 'Leonardo DiCaprio', and 'Brad Pitt' for the said extraction.

Leo_Caprio	Brad_Pitt	Meryl_Streep	Combined
TitanicÂ	Ocean's ElevenÂ	The Devil Wears PradaÂ	TitanicÂ
InceptionÂ	Mr. & Mrs. SmithÂ	Out of AfricaÂ	InceptionÂ
Catch Me If You CanÂ	Interview with the Vampire:	Julie & JuliaÂ	Catch Me If You CanÂ
Django UnchainedÂ	FuryÂ	Hope SpringsÂ	Django UnchainedÂ
Shutter IslandÂ	Ocean's TwelveÂ	It's ComplicatedÂ	Shutter IslandÂ
The DepartedÂ	Killing Them SoftlyÂ	The Iron LadyÂ	The DepartedÂ
The Great GatsbyÂ	True RomanceÂ	The HoursÂ	The Great GatsbyÂ
The Great GatsbyÂ	By the SeaÂ	A Prairie Home CompanionÂ	The Great GatsbyÂ
Romeo + JulietÂ	The Tree of LifeÂ	The River WildÂ	Romeo + JulietÂ
The Man in the Iron MaskÂ	The Curious Case of Benjami	One True ThingÂ	The Man in the Iron MaskÂ
The Wolf of Wall StreetÂ	Fight ClubÂ	Lions for LambsÂ	The Wolf of Wall StreetÂ
J. EdgarÂ	The Assassination of Jesse James by the Coward Robert Fc		J. EdgarÂ
The AviatorÂ	Seven Years in TibetÂ		The AviatorÂ
Marvin's RoomÂ	Sinbad: Legend of the Seven SeasÂ		Marvin's RoomÂ
The BeachÂ	TroyÂ		The BeachÂ
Revolutionary RoadÂ	Spy GameÂ		Revolutionary RoadÂ
The Quick and the DeadÂ			The Quick and the DeadÂ
Gangs of New YorkÂ			Gangs of New YorkÂ
Body of LiesÂ			Body of LiesÂ
Blood DiamondÂ			Blood DiamondÂ
			Ocean's ElevenÂ
			Mr. & Mrs. SmithÂ
			Interview with the Vampire: The Vampire ChroniclesÂ
			FuryÂ
			Ocean's TwelveÂ
			Killing Them SoftlyÂ
			True RomanceÂ
			By the SeaÂ
			The Tree of LifeÂ
			The Curious Case of Benjamin ButtonÂ
			Fight ClubÂ
			The Assassination of Jesse James by the Coward Robert FordÂ
			Seven Years in TibetÂ
			Sinbad: Legend of the Seven SeasÂ
			TroyÂ
			Spy GameÂ
			The Devil Wears PradaÂ
			Out of AfricaÂ
			Julie & JuliaÂ
			Hope SpringsÂ
			It's ComplicatedÂ
			The Iron LadyÂ
			The HoursÂ
			A Prairie Home CompanionÂ
			The River WildÂ
			One True ThingÂ
			Lions for LambsÂ

F.2 Append the rows of all these columns and store them in a new column named Combined.
Group the combined column using the actor_1_name column.
Find the mean of the num_critic_for_reviews and num_users_for_review and identify the actors which have the highest mean. **Audience Favourite :- Healther Donahue.   Critics Favourite:-Albert Finney**

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	num_user_for_revie	mean			Actor_name	Max of mean	Average of mean			actor	Critics favourite			Actor-name	Audience favourite	
2	3054	1888.5			Christopher Lee	2678.5	696.0			Albert Finney		750.00		Heather Donahue	3400.00	
3	1290	967			Christian Bale	2656.0	528.1			Peter Capaldi		654.00		Christo Jivkov	2814.00	
4	2528	1421.5			Morgan Freeman	2171.5	374.7			Craig Stark		596.00		Steve Bastoni	2789.00	
5	1470	876			Keanu Reeves	1979.5	273.1			BÃ©rÃ©nice Bejo		576.00		Orlando Bloom	1842.00	
6	515	365			Natalie Portman	1958.5	640.5			Suraj Sharma		552.00		Keir Dullea	1736.00	
7	1722	1212.5			CCH Pounder	1888.5	612.5			Ellar Coltrane		548.00		Eva Green	1708.33	
8	656	421			Heather Donahue	1880.0	1880.0			Mike Howard		546.00		Chen Chang	1641.00	
9	3597	1958.5			Henry Cavill	1845.5	714.6			Lou Taylor Pucci		543.00		Nick Stahl	1562.00	
10	4667	2656			Orlando Bloom	1758.5	1050.5			Joel Courtney		539.00		Albert Finney	1498.00	
11	1959	1316			Tom Hardy	1757.0	542.7			Maika Monroe		533.00		Kevin Rankin	1445.00	
12	1058	818.5			Leonardo DiCaprio	1722.5	609.9			Tim Holmes		525.00		Noah Huntley	1441.00	
13	706	604			Matthew McConaughey	1718.5	283.1			Elina Alminas		489.00		Osama bin Laden	1416.00	
14	895	601.5			Brad Pitt	1641.5	487.3			Kurt Fuller		487.00		Seychelle Gabriel	1382.00	
15	284	295			Christo Jivkov	1610.0	1610.0			Iko Uwais		481.00		Mathieu Kassovitz	1314.00	
16	916	703			Tom Cruise	1571.0	447.9			QuvenzhanÃ© Wallis		478.67		Essie Davis	1285.50	
17	866	583.5			Michael Fassbender	1550.5	635.9			Edgar Arreola		478.00		Sharlto Copley	1262.00	
18	483	344			Steve Bastoni	1532.0	1532.0			Sharlto Copley		472.00		Giancarlo Giannini	1243.00	
19	3189	1758.5			Naomi Watts	1532.0	583.3			Mia Wasikowska		469.00		Christopher Lee	1237.14	
20	647	422			Kevin Spacey	1445.5	380.5			Cory Hardrict		452.00		Matt Frewer	1229.00	
21	1398	773.5			Eva Green	1350.5	1048.5			Matt Frewer		451.00		Luenell	1198.00	
22	900	561.5			Mike Vogel	1325.5	545.5			Elizabeth McGovern		447.00		Micah Sloat	1189.00	
23	305	203.5			Djimon Hounsou	1316.5	367.7			Aidan Turner		447.00		Fionnula Flanagan	1109.00	
24	3286	1822.5			Jennifer Lawrence	1316.0	501.1			Michael Fassbender		434.33		Jim Meskimen	1107.00	
25	2012	1151.5			Jake Gyllenhaal	1305.5	494.5			Wood Harris		432.00		Bryce Dallas Howard	1103.50	
26	275	291.5			Rory Culkin	1271.5	504.3			Jennifer Lawrence		418.93		Ivana Baquero	1083.00	
27	2073	1153.5			Gerard Butler	1266.5	321.1			Anil Kapoor		418.00		Henry Cavill	1066.86	
28	962	673.5			Jim Broadbent	1264.0	269.5			Jessica Barden		417.00		Mhairi Calvey	1065.00	
29	904	655			Harrison Ford	1262.0	354.9			Sally Hawkins		415.00		Talulah Riley	1058.00	
30	155	160			Tom Hanks	1248.0	457.2			Danielle Kotch		411.00		Jake Busey	1049.00	
31	919	609			David Carradine	1229.5	555.2			Micah Sloat		409.00		Rudy Youngblood	1043.00	
32	2417	1355.5			Al Pacino	1223.0	305.7			Ivana Baquero		406.00		Janet Leigh	1040.00	
33	626	480			Haley Joel Osment	1217.0	311.4			Christo Jivkov		406.00		Natalie Portman	1031.94	
34	756	462			Chris Hemsworth	1212.5	510.2			Seamus Davey-Fitzpatrick		405.00		Craig Stark	1018.00	
35	498	395.5			Bruce Willis	1205.0	307.9			Giancarlo Giannini		403.00		Anil Kapoor	1017.00	
36	856	520.5			Johnny Depp	1192.0	421.3			Martin Dew		401.00		Sam Trammell	998.00	
37	420	340.5			Essie Davis	1183.0	765.3			John Boyega		399.00		Peter Capaldi	995.00	
38	771	502.5			Callum Rennie	1170.5	428.3			Jim Meskimen		398.00		CCH Pounder	965.50	
39	5060	2678.5			J.K. Simmons	1151.5	370.8			Clea DuVall		396.00		Lauren German	962.00	

top_250 | top foreign lang film | top director | genre | actors | mean | year

Ready   Accessibility: Investigate

F.3 Observe the change in number of voted users over decades using a bar chart. Create a column called decade which represents the decade to which every movie belongs to. For example, the title_year year 1923, 1925 should be stored as 1920s. Sort the column based on the column decade, group it by decade and find the sum of users voted in each decade. Store this in a new data frame called df_by_decade.
Your task: Find the critic-favorite and audience-favorite actors