

# IMDB MOVIE ANALYSIS

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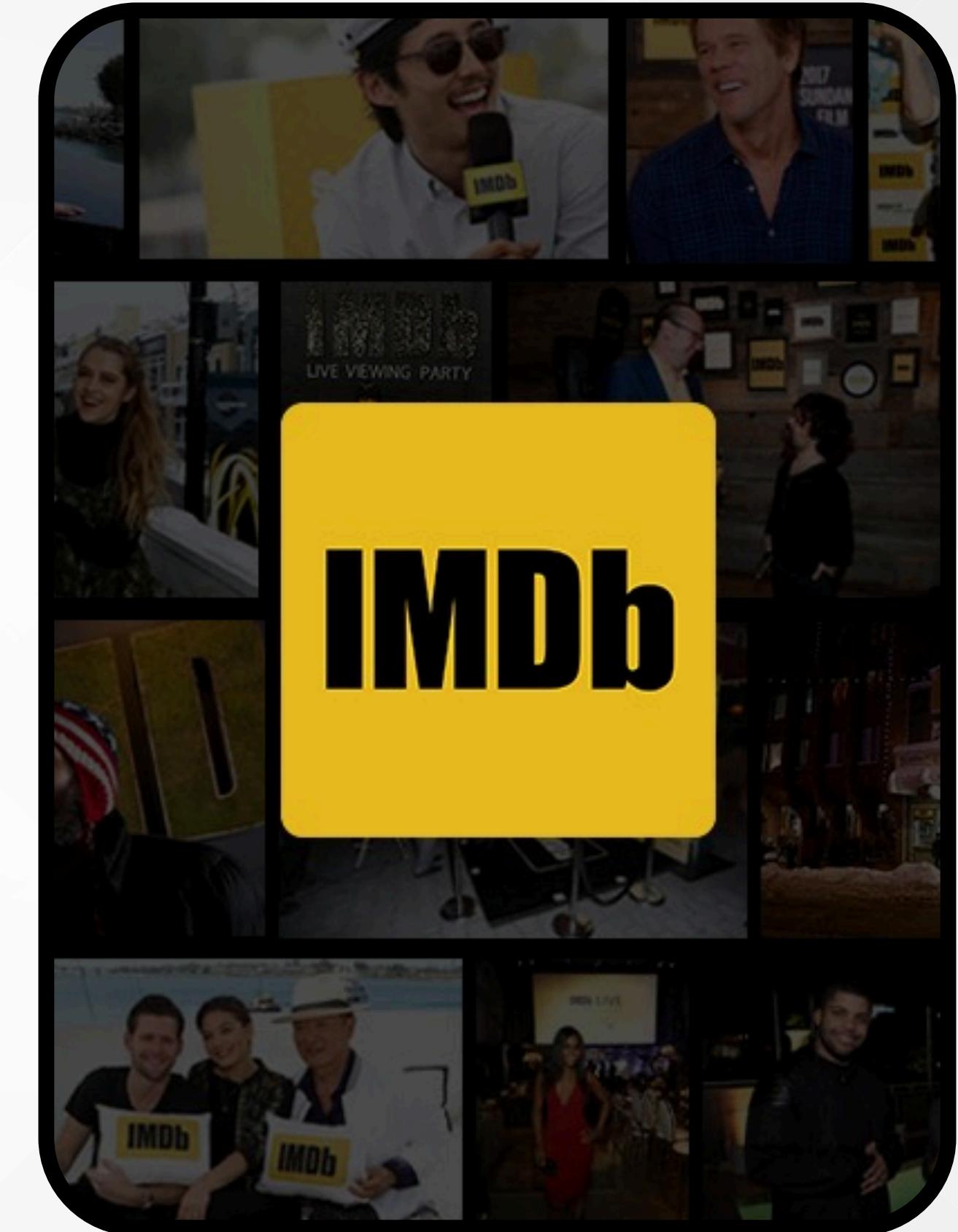
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# PROJECT DESCRIPTION

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The project aims to analyze IMDB movie data to understand the factors influencing the success of a movie on IMDB, focusing on aspects like genre, duration, language, directors, and budget. By conducting a comprehensive analysis, we aim to provide insights that can help movie producers, directors, and investors make informed decisions for their future projects.



# APPROACH

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1. Data Cleaning: Preprocessed the data to handle missing values, remove duplicates, and format the data for analysis.
2. Data Analysis: Explored the relationships between different variables such as movie genre, duration, language, directors, and budget with IMDB scores.
3. Five 'Whys' Approach: Employed this technique to delve deeper into the factors influencing movie ratings.
4. Visualization: Used Excel to create visualizations such as scatter plots, bar charts, and tables to illustrate the findings.
5. Descriptive Statistics: Calculated descriptive statistics like mean, median, mode, range, variance, and standard deviation to analyze the impact of various factors on movie ratings.



# BEFORE

director_name	num_office_for_duration	director_facebook_actor_3	director_facebook_actor_2	actor_1_name	actor_2_name	gross	genres	actor_1_name	movie_title	num_voted	cast_total	facebook_actor_3_name	facebooknumber_in_posts	movie_imdb_link	num_us_user_for_n_language	country	content_rating	budget	title_year	actor_2_facebook_imdb_score	aspect_ratio				
James Cameron	723	0	855	Joel David Moore	1000	795005451	Action Adventure Thriller	CCH Pounder	Avatar	886204	483	Wes Studi	0	avatarfuturemix	3054	English	USA	PG-13	23700000	2009	936	7.7			
Sam Mendes	302	169	562	1000	161	10200074175	Action Adventure Thriller	Christopher Waltz	Pirates of the Caribbean: At World's End	471220	1238	John C. Reilly	0	piratesatworlds	3000	English	USA	PG-13	300000000	2007	71	2.35			
Christopher Nolan	813	164	22000	230	1000	200074175	Action Adventure Thriller	Tom Hardy	The Dark Knight Rises	1144337	10769	Stephanie Signe	0	bombdisposal	2701	English	USA	PG-13	245000000	2015	393	8.8			
Doug Stanton	462	132	530	Rob Walker	131	730508679	Documentary	Doug Walker	Star Wars: Episode VII - The Force Awakens	212204	8	1873	0	avatarmovie	738	English	USA	PG-13	263700000	2012	632	6.6			
Sam Raimi	305	156	0	James Franco	24000	336530320	Action Adventure Sci-Fi	Spider-Man 3	Spider-Man 3	383056	1000	Kirsten Dunst	0	sandmanspider	1902	English	USA	PG-13	258000000	2007	1100	6.2			
Nathen Greeno	320	100	15	284	200807262	Action Adventure Fan	J.K. Simmons	Tangled	208 M.C. Gainey	387	English	USA	PG	260000000	2010	593	7.8	1.85							
Jeff Bridges	655	141	0	1899	200807262	Action Adventure Fan	Mark Ruffalo	Iron Man 2	200807262	111	English	USA	PG-13	250000000	2009	753	7.5	2.35							
David Yates	375	153	282	1000	2010	301956800	Action Adventure Fan	Alan Rickman	Harry Potter and the Prisoner of Azkaban	31795	1000	Rupert Grint	0	bloodbooklove	973	English	UK	PG-13	250000000	2009	1000	7.5	2.35		
Zack Snyder	673	183	0	2000	Lauren Cohen	15000	Action Adventure Fan	Batman v Superman: Dawn of Justice	31795	2400	Alon D. Perush	0	basedonbook	3018	English	USA	PG-13	250000000	2016	4000	6.9	2.35			
Bryan Singer	434	169	0	903	Adam Sandler	18000	Action Adventure Fan	Kevin Spacey	Superman Returns	243996	1000	240000000	0	crystallinepig	237	English	USA	PG-13	200000000	2006	5000	8.1	2.35		
Mike Newell	423	158	365	1000	200807262	Action Adventure Fan	Sam Rockwell	Terminator Salvation	327294	1000	200000000	0	darkangel	203	English	UK	PG-13	220000000	2008	412	6.7	2.35			
Gore Verbinski	313	151	563	1000	Orlando Bloom	40000	Action Adventure Fan	Johnny Depp	Pirates of the Caribbean: At World's End	42302828	1000	200000000	0	bozooffice	2	box office	4488	English	USA	PG-13	225000000	2006	5000	7.3	2.35
Gore Verbinski	450	156	563	1000	Ruth Wilson	40000	Action Adventure Fan	Johnny Depp	The Lone Ranger	181792	1000	200000000	0	horsemovies	711	English	USA	PG-13	210000000	2013	2000	6.2	2.35		
Zack Snyder	733	143	0	1899	200807262	Action Adventure Fan	Tom Hardy	300000000	200000000	0	horses	250	English	USA	PG-13	230000000	2013	3000	7.2	2.35					
Andrew Adamson	293	150	80	201	200807262	Action Adventure Fan	Christopher Lee	The Chronicles of Narnia: Prince Caspian	141614023	1000	200000000	0	brotherbrother	438	English	USA	PG	225000000	2008	218	6.6	2.35			
Josh Whedon	703	173	0	19000	David Donowhy	10000	Action Adventure Fan	Sam Rockwell	The Chronicles of Narnia: The Voyage of the Dawn Treader	146922	1000	200000000	0	brotherbrother	1722	English	USA	PG-13	200000000	2012	21000	8.1	1.85		
Rob Marshall	448	150	252	1000	Sam Claffin	10000	Action Adventure Fan	Johnny Depp	Pirates of the Caribbean: On Stranger Tides	241063875	1000	200000000	0	blockheadslips	484	English	USA	PG-13	200000000	2011	1000	6.7	2.35		
Peter Jackson	422	164	0	773	Adam Brown	5000	Action Adventure Fan	Emma Stone	The Hobbit: Desolation of Smaug	251503870	1000	200000000	0	bozooffice	203	English	USA	PG-13	200000000	2012	316	6.8	1.85		
Marc Webb	599	156	484	93	Andrea Corr	15000	Action Adventure Fan	Iron Man 3	The Hobbit: The Desolation of Smaug	262030683	1000	200000000	0	licoricepuff	3158	English	USA	PG-13	200000000	2014	972	7.5	2.35		
Peter Jackson	343	150	1000	2000	Jon Favreau	10000	Action Adventure Fan	Iron Man 3	The Hobbit: The Desolation of Smaug	262030683	1000	200000000	0	licoricepuff	3158	English	USA	PG-13	200000000	2012	1000	7.2	2.35		
Peter Jackson	509	186	0	773	Adam Brown	5000	Action Adventure Fan	Iron Man 3	The Hobbit: Desolation of Smaug	262030683	1000	200000000	0	deafbutfunny	951	English	USA	PG-13	200000000	2013	972	7.9	2.35		
Chris Weitz	251	129	1000	Eva Green	18000	Action Adventure Fan	Sam Rockwell	The Golden Compass	207035191	1000	200000000	0	childrespective	668	English	USA	PG-13	180000000	2007	6000	6.1	2.35			
Peter Jackson	446	201	0	84	Thomas Kretschmann	6000	Action Adventure Fan	Naomi Watts	The Golden Compass	210519126	1000	200000000	0	childrespective	2618	English	New Zealand	PG-13	207000000	2009	910	6.1	2.35		
James Cameron	313	184	0	84	James Franco	10000	Action Adventure Fan	King Kong	Avatar	210519126	1000	200000000	0	childrespective	2618	English	USA	PG-13	207000000	2009	1000	7.7	2.35		
Anthony Russo	511	147	94	1000	Scarlett Johansson	21000	Action Adventure Fan	Robert Downey Jr.	Captain America: Civil War	20719782	1000	200000000	0	basedon	1022	English	USA	PG-13	200000000	2016	1900	8.2	2.35		
Peter Berg	377	131	532	1000	Scarlett Johansson	14000	Action Adventure Fan	Sam Rockwell	BattleShip	202392	1000	200000000	0	box office flags	751	English	USA	PG-13	200000000	2012	1000	5.9	2.35		
Costa Giannopoulou	364	153	360	1000	Scarlett Johansson	10000	Action Adventure Fan	Sam Rockwell	World War Z	210400000	1000	200000000	0	blockhead	120	English	USA	PG-13	200000000	2013	200	7	2.35		
Sam Raimi	750	143	0	393	Helen Mirren	883	Action Adventure Fan	Sam Rockwell	Transformers: Revenge of the Fallen	210400000	1000	200000000	0	blockhead	1498	English	USA	PG-13	200000000	2012	563	7.8	2.35		
Shane Black	608	155	1000	James Franco	21000	Action Adventure Fan	Sam Rockwell	Transformers: Revenge of the Fallen	210400000	1000	200000000	0	blockhead	283	English	USA	PG-13	200000000	2011	911	6.3	2.35			
Lee Unkrich	451	158	1000	Jon Favreau	10000	Action Adventure Fan	Sam Rockwell	Transformers: Revenge of the Fallen	210400000	1000	200000000	0	blockhead	1498	English	USA	PG-13	200000000	2011	368	5.6	2.35			
Brett Ratner	331	104	420	1000	Kelley McCormick	26000	Action Adventure Fan	Sam Rockwell	Transformers: Revenge of the Fallen	210400000	1000	200000000	0	blockhead	1912	English	Canada	PG-13	210000000	2008	808	6.8	2.35		
Dan Scuderi	376	104	37	760	Tyler Labine	12000	Action Adventure Fan	Sam Rockwell	Transformers: Revenge of the Fallen	210400000	1000	200000000	0	blockhead	232	English	USA	PG-13	200000000	2013	779	7.3	1.85		
Michael Bay	366	150	0	404	Eric Bana	10000	Action Adventure Fan	Sam Rockwell	Transformers: Revenge of the Fallen	210400000	1000	200000000	0	blockhead	265	English	USA	PG-13	200000000	2009	981	6.6	2.35		
Michael Bay	378	165	0	808	Sophie Myles	974	Action Adventure Fan	Sam Rockwell	Transformers: Revenge of the Fallen	210400000	1000	200000000	0	blockhead	308	English									

# A. MOVIE GENRE ANALYSIS

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Most Common Genres:

Drama	153
Comedy   Drama   Romance	151
Comedy   Drama	147
Comedy	145
Comedy   Romance	135
Drama   Romance	119
Crime   Drama   Thriller	82
Action   Crime   Thriller	55

# A. MOVIE GENRE ANALYSIS

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## Analysis:

genres	COUNTA of genres	SUM of imdb_score	AVERAGE of imd	MAX of imbd_sco	MIN of imbd_sco	MEDIAN of imbd	VARP of imbd_sco	STDEVP of imbd
Action	6	35.5	5.916666667	8.1	3.7	5.8	1.978055556	1.40643363
Action Adventure	9	61.7	6.855555556	8.5	4.8	6.7	1.355802469	1.164389312
Action Adventure Animation Comedy Crime Family Fantasy	1	6.2	6.2	6.2	6.2	6.2	0	0
Action Adventure Animation Comedy Drama Family Sci-Fi	2	15.9	7.95	8	7.9	7.95	0.0025	0.05
Action Adventure Animation Comedy Family	5	35.8	7.16	7.6	6.7	7.2	0.0904	0.3006659276
Action Adventure Animation Comedy Family Fantasy	4	29.3	7.325	7.9	6.7	7.35	0.281875	0.5309190145
Action Adventure Animation Comedy Family Fantasy Sci-Fi	2	11.4	5.7	6.3	5.1	5.7	0.36	0.6
Action Adventure Animation Comedy Family Sci-Fi	3	17.9	5.966666667	6.5	5.4	6	0.2022222222	0.4496912521
Action Adventure Animation Comedy Fantasy	1	7.2	7.2	7.2	7.2	7.2	0	0
Action Adventure Animation Comedy Fantasy Sci-Fi	1	6.9	6.9	6.9	6.9	6.9	0	0
Action Adventure Animation Drama Mystery Sci-Fi Thriller	1	7.1	7.1	7.1	7.1	7.1	0	0
Action Adventure Animation Family	1	8	8	8	8	8	0	0
Action Adventure Animation Family Fantasy	1	7	7	7	7	7	0	0
Action Adventure Animation Family Fantasy Sci-Fi	1	6.8	6.8	6.8	6.8	6.8	0	0
Action Adventure Animation Family Sci-Fi	2	12.5	6.25	6.6	5.9	6.25	0.1225	0.35
Action Adventure Animation Family Sci-Fi Thriller	1	6.9	6.9	6.9	6.9	6.9	0	0
Action Adventure Animation Fantasy	1	6.3	6.3	6.3	6.3	6.3	0	0
Action Adventure Animation Fantasy Romance Sci-Fi	1	6.4	6.4	6.4	6.4	6.4	0	0
Action Adventure Biography Drama History Romance War	1	5.5	5.5	5.5	5.5	5.5	0	0
Action Adventure Biography Drama History Thriller	1	7	7	7	7	7	0	0
Action Adventure Comedy	10	59.6	5.96	7.3	5.1	5.8	0.3364	0.58
Action Adventure Comedy Crime	6	36.4	6.066666667	7.6	4.4	6.45	1.245555556	1.116044603
Action Adventure Comedy Crime Family Romance Thriller	1	5	5	5	5	5	0	0
Action Adventure Comedy Crime Music Mystery	1	6.3	6.3	6.3	6.3	6.3	0	0
Action Adventure Comedy Crime Mystery Thriller	1	6.9	6.9	6.9	6.9	6.9	0	0
Action Adventure Comedy Crime Thriller	1	5.5	5.5	5.5	5.5	5.5	0	0
Action Adventure Comedy Drama Music Sci-Fi	1	6.7	6.7	6.7	6.7	6.7	0	0
Action Adventure Comedy Drama Thriller	1	5.2	5.2	5.2	5.2	5.2	0	0
Action Adventure Comedy Drama War	1	7.1	7.1	7.1	7.1	7.1	0	0

## B. MOVIE DURATION ANALYSIS

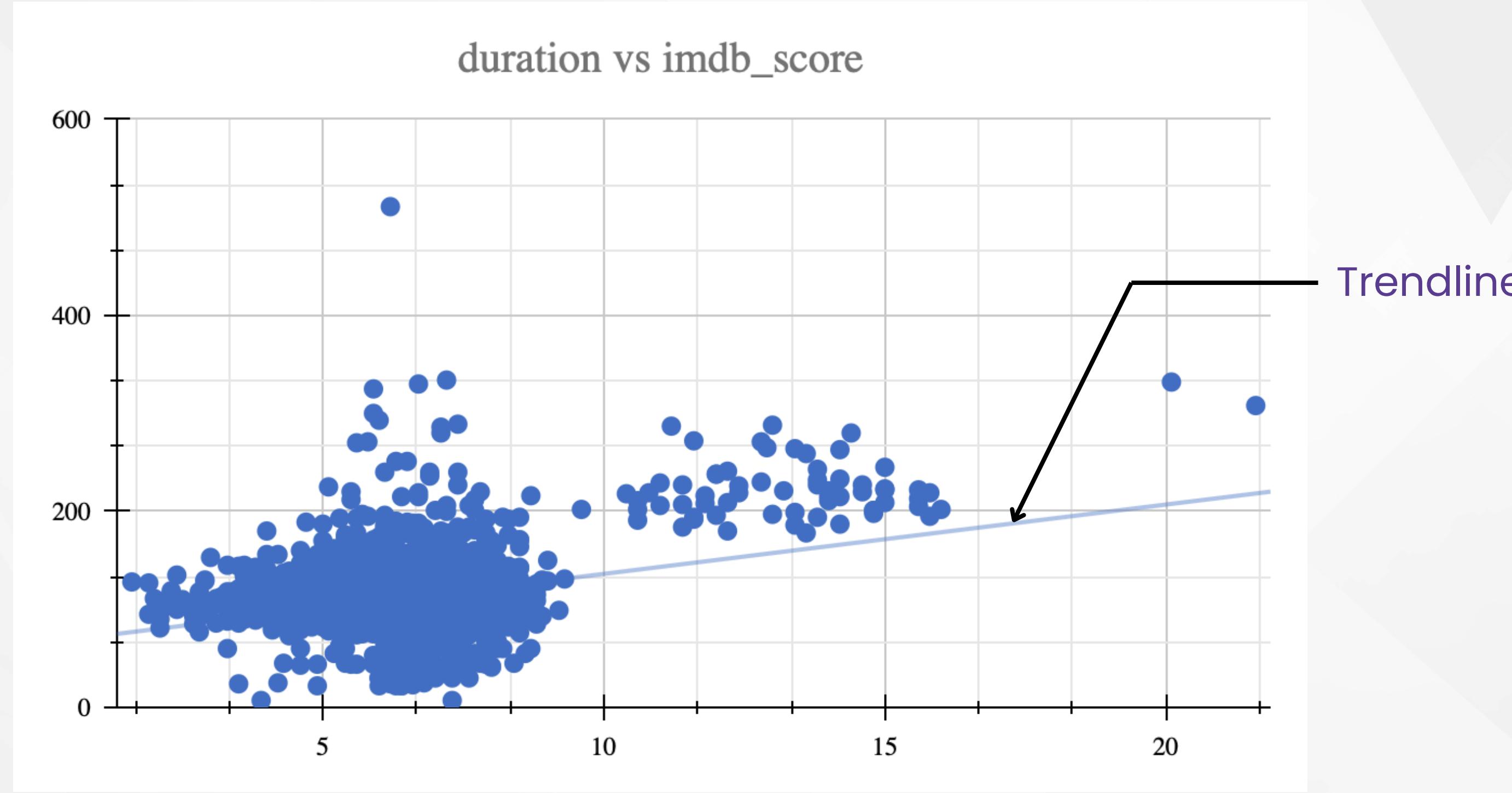
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Analysis:

Values	
<b>duration (Average)</b>	<b>107.20107398568</b>
<b>duration (Median)</b>	<b>103</b>
<b>duration (STDEV)</b>	<b>25.1974408088242</b>

## B. MOVIE DURATION ANALYSIS

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# C. LANGUAGE ANALYSIS

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Top 10 languages:

Column I	Column I (Count)
English	3669
French	37
Spanish	26
Mandarin	14
German	13
Japanese	12
Hindi	10
Cantonese	8
Italian	7
Korean	5

# C. LANGUAGE ANALYSIS

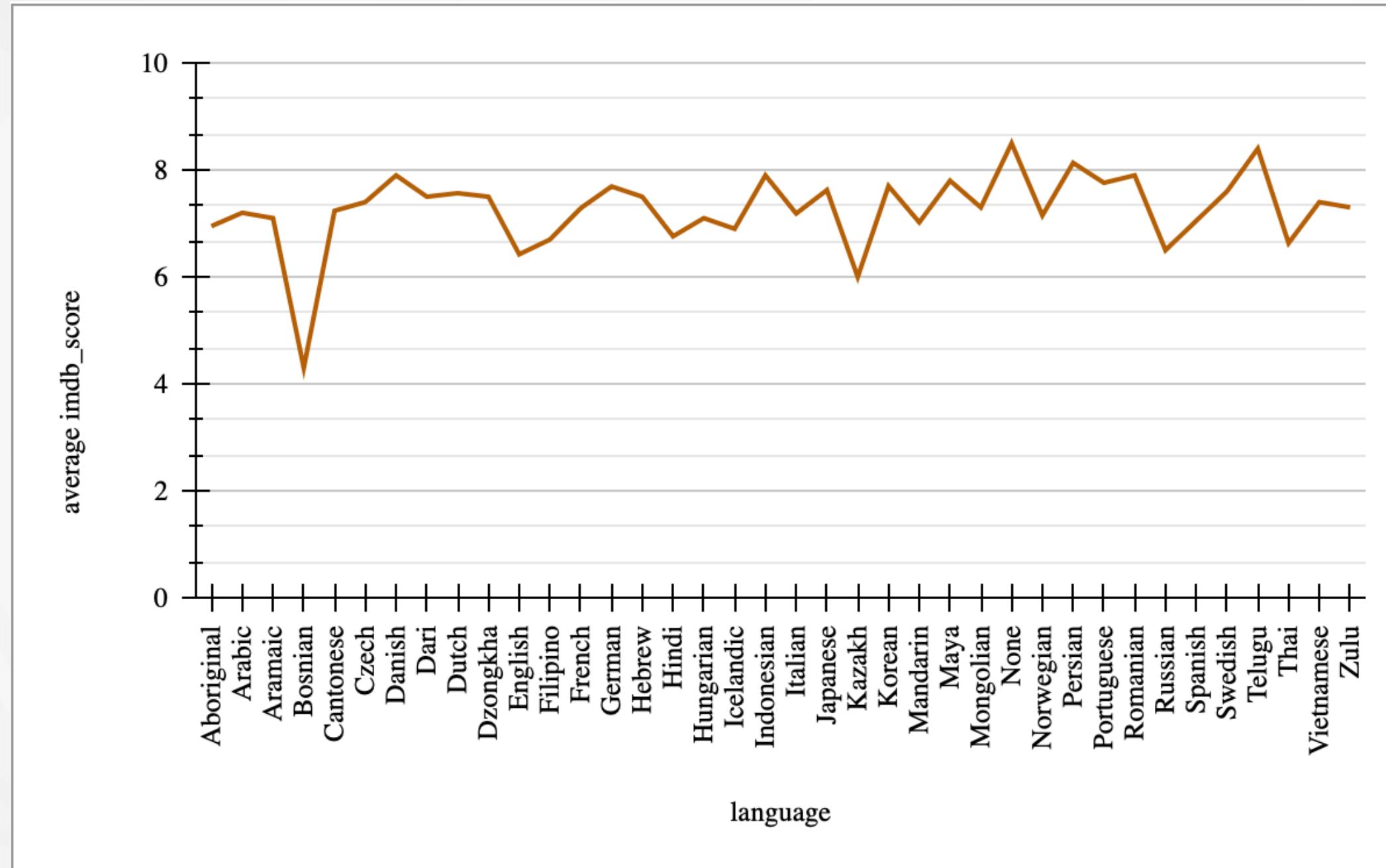
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Analysis:

Column I	Column I (Count All)	Column N (Average)	Column N (Median)	Column N (STDEVP)
English	3669	6.42354865085854	6.5	1.04869260148446
French	37	7.28648648648649	7.2	0.553691377672866
Spanish	26	7.05	7.15	0.810151932569536
Mandarin	14	7.02142857142857	7.25	0.737930089050806
German	13	7.69230769230769	7.7	0.615769110651985
Japanese	12	7.625	7.8	0.861321658847611
Hindi	10	6.76	7.05	1.05470374987482
Cantonese	8	7.2375	7.3	0.412121038045863
Italian	7	7.18571428571429	7	1.06961751699056
Korean	5	7.7	7.7	0.509901951359279
Portuguese	5	7.76	8	0.875442745129572
Norwegian	4	7.15	7.3	0.49749371855331
Danish	3	7.9	8.1	0.432049379893857
Dutch	3	7.566666666666667	7.8	0.329983164553722
Hebrew	3	7.5	7.3	0.355902608401044
Persian	3	8.13333333333333	8.4	0.449691252107735
Thai	3	6.63333333333333	6.6	0.368178700572909
Aboriginal	2	6.95	6.95	0.55
Dari	2	7.5	7.5	0.1
Indonesian	2	7.9	7.9	0.3

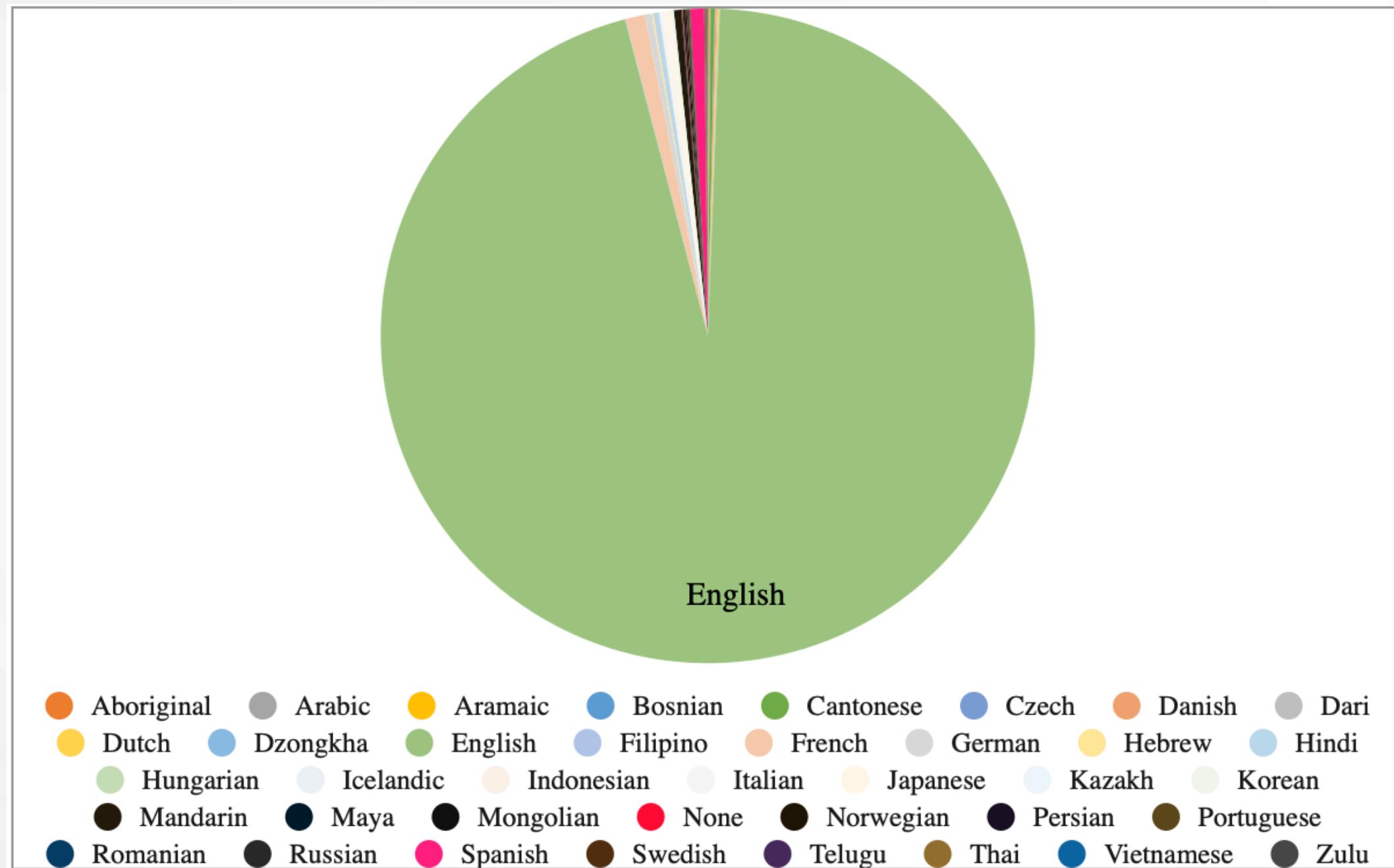
# C. LANGUAGE ANALYSIS

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# C. LANGUAGE ANALYSIS

The distribution of movies based on their language.



## D. DIRECTOR ANALYSIS

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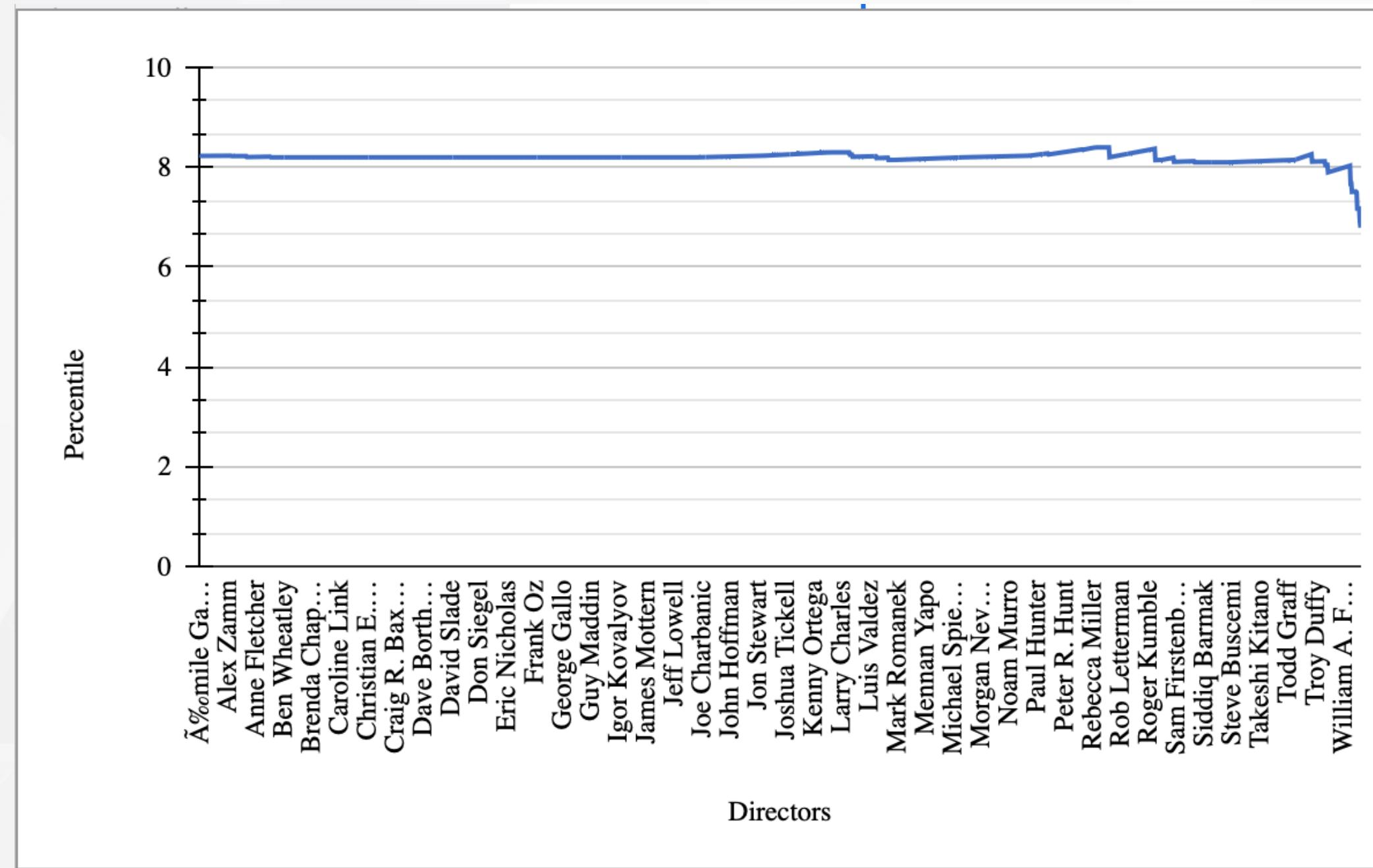
Top 10 directors based on their average IMDB score:

1	<i>director_name</i>	AVERAGE of imdb_score
2	Tony Kaye	8.6
3	Charles Chaplin	8.6
4	Ron Fricke	8.5
5	Majid Majidi	8.5
6	Damien Chazelle	8.5
7	Alfred Hitchcock	8.5
8	Sergio Leone	8.433333333
9	Christopher Nolan	8.425
10	S.S. Rajamouli	8.4
11	Richard Marquand	8.4

# D. DIRECTOR ANALYSIS

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Percentile vs Directors:



# E. BUDGET ANALYSIS

The correlation between movie budgets and gross earnings

1	<i>movie_title</i>	Budget	Gross	CORREL	PROFIT
2	[Rec] 2Â	5600000	27024	0.1227800391	-5572976
3	10 Cloverfield LaneÂ	15000000	71897215	0.9967548067	56897215
4	10 Days in a MadhouseÂ	12000000	14616	0.9967548453	-11985384
5	10 Things I Hate About YouÂ	16000000	38176108	0.996754847	22176108
6	102 DalmatiansÂ	85000000	66941559	0.9967548517	-18058441
7	10th & WolfÂ	8000000	53481	0.9967548625	-7946519
8	12 RoundsÂ	22000000	12232937	0.9967548628	-9767063
9	12 Years a SlaveÂ	20000000	56667870	0.9967548643	36667870
10	127 HoursÂ	18000000	18329466	0.9967548789	329466
11	13 Going on 30Â	37000000	56044241	0.9967548783	19044241
12	13 HoursÂ	50000000	52822418	0.9967548807	2822418
13	1408Â	25000000	71975611	0.9967548806	46975611
14	15 MinutesÂ	42000000	24375436	0.9967549051	-17624564
15	16 BlocksÂ	52000000	36883539	0.9967549116	-15116461
16	17 AgainÂ	20000000	64149837	0.9967549176	44149837

## E. BUDGET ANALYSIS

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The movies with the highest profit margin:

Using the following functions,

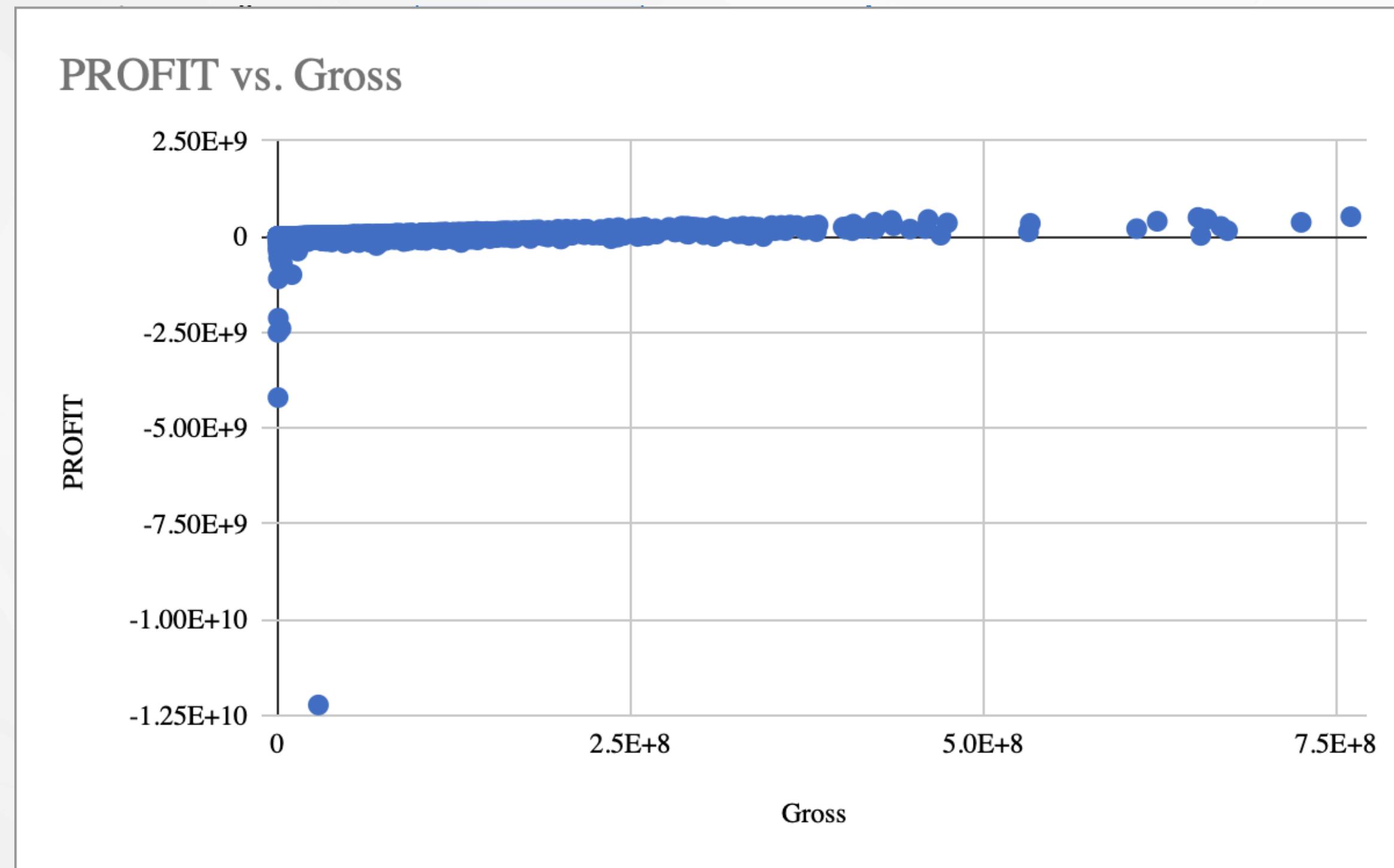
=MAX(E2:E3780)

=INDEX(A2:A3780, MATCH(MAX(E2:E3780), E2:E3780, 0))

MAX	Movie
523505847	Avatar

## E. BUDGET ANALYSIS

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# INSIGHTS

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## 1. Most Common Genre is Drama:

- Drama movies are the most popular because people like stories that make them feel emotional and connected to the characters.

## 2. Most Common Language is English:

- Most movies are in English because Hollywood movies are popular worldwide, so filmmakers need to speak English or translate their movies for different audiences.

## 3. Top Directors are Charles Chaplin and Tony Kaye:

- Charles Chaplin and Tony Kaye are two famous directors who make really good movies. They show that having a unique style and telling stories in a special way can make movies successful.

## 4. Movie with Highest Profit Margin is "Avatar":

- "Avatar" made a lot of money compared to how much it cost to make. It's an example of how a big, exciting movie can be really successful and make a lot of profit.



IMDb

# THANK YOU

★ 7.5 ★

American Gigolo

★ 6.9 ★

Napoleon Dynamite

Link: [Task5 sakhipatel](#)

★

Tommy Boy

★ 6.6 ★

Half Baked

Watch options



sakhipatel20@gmail.com

Watch options

Watch options

► Trailer



► Trailer



► Trailer



► Trailer



► Trailer

