




Summary Statistics

```
import pandas as pd
disney_data = pd.read_csv('disney movie total gross.csv')

# Clean data types for analysis
disney_data['Date Released'] = pd.to_datetime(disney_data['Date Released'], dayfirst=True, errors='coerce')
disney_data['Year Released'] = disney_data['Date Released'].dt.year

# Generate summary statistics for the dataset
disney_data.describe()
```



	Date Released	Total Gross	Inflation Adjusted Gross	Year Released	
count	579	5.790000e+02	5.790000e+02	579.000000	
mean	1998-07-10 13:20:49.740932608	6.470179e+07	1.187625e+08	1998.012090	
min	1937-12-21 00:00:00	0.000000e+00	0.000000e+00	1937.000000	
25%	1993-03-29 12:00:00	1.278886e+07	2.274123e+07	1993.000000	
50%	1998-09-04 00:00:00	3.070245e+07	5.515978e+07	1998.000000	
75%	2006-02-06 12:00:00	7.570903e+07	1.192020e+08	2006.000000	
max	2016-12-16 00:00:00	9.366622e+08	5.228953e+09	2016.000000	
std	NaN	9.301301e+07	2.860853e+08	11.410924	

Here from the summary statistics of the Disney dataset, we observed that it contains 579 movies released between 1937 and 2016. The dataset has 13 unique genres, with Comedy being the most frequent, appearing 182 times, and PG as the most common MPAA rating with 187 movies. The financial data shows that total gross revenue ranges from 0 to 936.6 million USD, with a mean of 64.7

million USD. After After adjusting for inflation, the maximum gross is 5.2 billion USD, indicating the immense value of Disney's movies over time.

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```
# Analyzing total gross and inflation-adjusted gross by genre
gross_by_genre = disney_data.groupby('Genre').agg({
    'Total Gross': ['mean', 'median', 'sum', 'count'],
    'Inflation Adjusted Gross': ['mean', 'median', 'sum', 'count']
}).sort_values(by=('Total Gross', 'sum'), ascending=False)

print("\nDisney Movie Summary Statistics by Genre:")
gross_by_genre
```



Disney Movie Summary Statistics by Genre:

Genre	Total Gross				Inflation Adjusted Gross			
	mean	median	sum	count	mean	median	sum	count
Adventure	1.270471e+08	65000000.0	16389069453	129	1.903974e+08	102254492.0	24561266158	129
Comedy	4.461329e+07	26923500.5	8119619678	182	8.466773e+07	51195217.0	15409526913	182
Action	1.046141e+08	43315244.5	4184563282	40	1.374734e+08	69012064.5	5498936786	40
Drama	3.602608e+07	19730097.0	4106972970	114	7.189302e+07	39325794.0	8195804484	114
Thriller/Suspense	5.861694e+07	28153827.0	1406806519	24	8.965379e+07	51804588.0	2151690954	24
Musical	7.233026e+07	53041787.5	1157284155	16	6.035979e+08	103167587.5	9657565776	16
Romantic Comedy	5.009595e+07	32680633.0	1152206855	23	7.777708e+07	57925202.0	1788872933	23
Western	5.128735e+07	56932305.0	359011459	7	7.381571e+07	89042541.0	516709946	7
Documentary	1.129285e+07	9688331.0	180685619	16	1.271803e+07	12344483.5	203488418	16
Unknown	6.943942e+06	3218882.0	118047013	17	2.162373e+07	6654819.0	367603384	17
Concert/Performance	5.172823e+07	51728233.0	103456466	2	5.741084e+07	57410839.0	114821678	2
Black Comedy	3.251440e+07	28084357.0	97543212	3	5.224349e+07	51579764.0	156730475	3
Horror	1.451148e+07	13439137.5	87068872	6	2.341385e+07	18589709.5	140483092	6



Next steps:

[Generate code with gross_by_genre](#)[View recommended plots](#)[New interactive sheet](#)

From the analysis of total gross and inflation-adjusted gross by genre, we observed that Adventure and Comedy are the most financially successful genres. Adventure movies, despite having fewer releases (129), lead in total gross with a sum of 1.64 billion USD and the highest inflation-adjusted gross sum of 24.5 billion USD . Comedy movies dominate in count (182) and show consistent financial success, with a total gross sum of 811 million USD . Drama, Thriller/Suspense, and Musical genres also contribute

significantly to overall revenue but with fewer releases. These insights emphasize the financial importance of focusing on Adventure and Comedy films, which consistently deliver high returns for Disney.

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```
# Analyzing total gross by MPAA Rating
gross_by_rating = disney_data.groupby('MPAA Rating').agg({
    'Total Gross': ['mean', 'median', 'sum', 'count'],
    'Inflation Adjusted Gross': ['mean', 'median', 'sum', 'count']
}).sort_values(by=('Total Gross', 'sum'), ascending=False)

print("\nDisney Movie Summary Statistics by MPAA Rating:")
gross_by_rating
```



Disney Movie Summary Statistics by MPAA Rating:

MPAA Rating	Total Gross				Inflation Adjusted Gross			
	mean	median	sum	count	mean	median	sum	count
PG	7.362521e+07	50047179.0	13767914371	187	1.015414e+08	69055550.0	18988248082	187
PG-13	8.118074e+07	32680633.0	11771207588	145	1.029486e+08	51373912.0	14927544680	145
G	9.209061e+07	65140890.5	7919792693	86	2.912610e+08	103154765.5	25048445571	86
R	2.936536e+07	19168928.5	2995266596	102	5.530581e+07	31587673.5	5641192166	102
Unknown	1.529940e+07	12967996.0	856766536	56	5.818661e+07	32106907.0	3258450260	56
Not Rated	5.046259e+07	9230769.0	151387769	3	2.998734e+08	109581646.0	899620238	3



Next steps:

[Generate code with gross_by_rating](#)

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From the analysis of total gross and inflation-adjusted gross by MPAA rating, we found that PG-rated movies dominate both in frequency 187 movies and total gross, with a cumulative revenue of 1.37 billion USD. G-rated films, although fewer in number 86 movies, exhibit the highest median total gross of 65.1 million USD and significant inflation-adjusted revenue, with a total of 25 billion USD, PG-13 movies also perform well, contributing 1.17 billion USD to total gross and showing consistent financial success.

R-rated films and movies with unknown ratings contribute less, highlighting Disney's focus on family-friendly content as a key driver of success. These findings reinforce the importance of PG and G-rated movies for maximizing revenue while maintaining the company's brand identity.

```
# Analyze number of movies released by decade
disney_data['Decade'] = (disney_data['Year Released'] // 10) * 10
movies_by_decade = disney_data.groupby('Decade').size()
print("\nDisney Movie Release Count by Decade:")
print(movies_by_decade)
```



```
Disney Movie Release Count by Decade:
Decade
1930      1
1940      3
1950      4
1960      7
1970      9
1980     61
1990    236
2000    172
2010     86
dtype: int64
```

Here, we observed that the volume of releases increased significantly over time. In the 1930s, there was just 1 movie, which grew modestly through the 1940s (3 movies) and 1950s (4 movies). A notable increase occurred in the 1980s with 61 movies, peaking in the 1990s with an impressive 236 movies. This was followed by 172 releases in the 2000s and a slight decline to 86 movies in the 2010s. We believe this decline in the 2010s was due to Disney shifting its focus from quantity to quality, prioritizing high-budget

blockbuster films from franchises like Marvel and Star Wars. This strategy ensured fewer releases but higher profitability per movie, aligning with changing audience preferences for big cinematic events.

```
# Summary of inflation-adjusted gross trends over time
gross_trends = disney_data.groupby('Year Released').agg({
    'Inflation Adjusted Gross': 'sum'
})
print("\nInflation Adjusted Gross Trends Over Time:")
gross_trends
```



Inflation Adjusted Gross Trends Over Time:

Inflation Adjusted Gross



Year Released



1937	5228953251
1940	4375319860
1946	1078510579
1950	920608730
1954	528279994
1955	1236035515
1959	21505832
1961	1797806719
1962	109581646
1963	153870834
1967	789612346
1968	138612686
1970	356362241
1971	91305448
1975	131246872
1977	363659174
1979	120377374
1980	43560212
1981	181636869
1982	110731153



1983	100549534
1984	178132661
1985	173124212
1986	577472408
1987	1186649969
1988	986841867
1989	1097851241
1990	1226460745
1991	1221190032
1992	1736349861
1993	1427312980
1994	2140690807
1995	2188599043
1996	2157238999
1997	1474848034
1998	2189031209
1999	1981582799
2000	1711675892
2001	1296291781
2002	1680599676
2003	2171244827
2004	1570219160
2005	1273982639
2006	1834744763

2007	1757479739
2008	1135356255
2009	1359908617
2010	1622535159
2011	1172578942
2012	1537669134
2013	1887863558
2014	1560791318
2015	2495662696
2016	2873393105

From the analysis of inflation-adjusted gross trends over time, we observed a consistent growth in revenues across decades. Early years like 1937 saw an inflation-adjusted gross of 5.22 billion USD, and the trend continued with significant increases over time. The 1980s and 1990s marked substantial growth, with peaks in the 2010s, culminating in a record-breaking 28.7 billion USD in 2016. This progression highlights Disney's ability to capitalize on modern blockbusters and adapt to evolving audience demands. The consistent growth reflects both strong content strategies and the global expansion of Disney's brand over time.

OVERALL CONCLUSION

The Disney movie dataset, spanning 579 films from 1937 to 2016, highlights the company's strengths and financial successes. Comedy emerges as the most frequent and lucrative genre, while Adventure films, despite fewer releases, boast the highest median gross, reflecting consistent profitability. PG rated films dominate in both volume (187 movies) and total revenue, while G rated films, though less frequent, are incredibly profitable, with a median inflation adjusted gross of \$2.9 billion. Disney's family friendly focus is further emphasized by the minimal contribution of R rated films. Production trends show a peak in the 1990s with 236 releases, while inflation-adjusted revenues have grown over time, with modern blockbusters like those in 2016 achieving record-breaking success. Focusing on Adventure and Comedy films, alongside PG and G rated content, aligns with Disney's brand and maximizes profitability. However, limitations in data, such as gaps in genres and MPAA ratings and skewed inflation adjustments, suggest that incorporating audience demographics and market preferences could provide deeper insights for strategic decisions.