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# Streaming Services

A Comparative Analysis



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An Introduction to the topic



# Introduction

# A Short History

## Before Netflix

- Limited Content: Consumers were restricted in their choices by what was offered on the shelf by season and by individual stores.
- Lack of Accessibility: Consumers primarily watched films and shows on a television.
- Limited by Physical Media: Consumers had to pick up physical tapes/DVDs at places like Blockbuster.

## After Netflix

- Diverse, Personalized Content: Consumers have a greater variety of choices that may be recommended based on prior viewing history.
- Improved Accessibility: Media can now be watched on phones, tablets, PCs, etc
- Surge in Competition: Consumers now have a choice among rising competitors who offer their own unique features



# Streaming Services



Netflix

Founded in 1997.  
Originally mailed DVD's to  
customers.



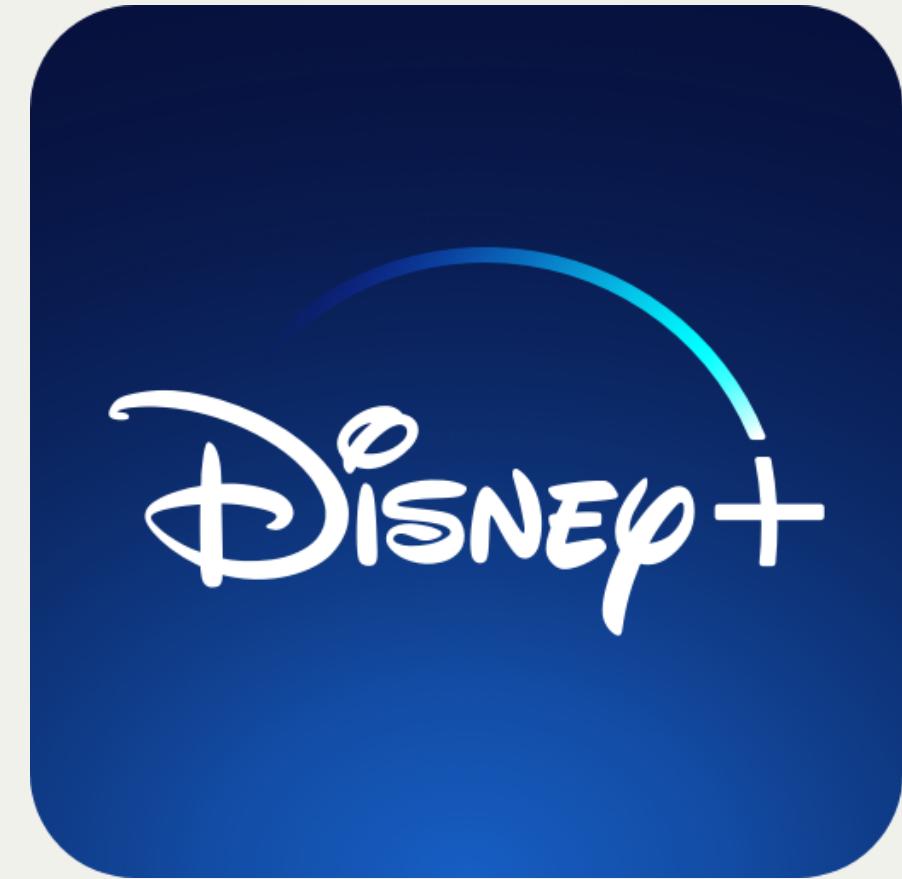
Hulu

Founded in 2007.  
Is owned by Walt Disney  
Company.



Prime Video

Launched in 2006.  
First known as Amazon  
Unbox.



Disney+

Launched in 2019.  
Was known as DisneyLife  
before and only used in the  
UK.



	Zurich	Festivals	Geneva	Basel	Other	Total
1	6,381.67	3,0003.86	3,363.87	3,363.87	3,363.87	13,0003.86
2	8,826.47	7,149.44	2,0003.43	2,297.27	6,372.56	27,337.34
3	7,093.40	6,255.09	4,253.44	1,103.21	4,173.65	23,523.54
4	4,230.50	2,232.80	6,195.07	7,937.21	9,937.31	30,211.1
5	5,542.51	9,137.41	7,472.50	4,445.43	4,193.23	8,253.
6	9,162.20	8,096.01	8,961.98	6,381.67	3,456.12	6,447
7	3,456.12	7,419.90	7,574.02	2,912.50	7,365.77	7,02
8	6,199.56	9,541.50	2,283.41	3,021.66	2,232.80	9,10
9	4,634.10	6,199.51	4,903.45	5,524.92	8,297.27	2,2
10	1,628.22	4,253.11	6,359.06	6,004.76	1,043.33	1,
11	7,365.77	7,552.33	9,811.78	1,587.83	9,337.50	0
12	3,844.56	5,021.27	3,599.20	3,382.90	6,255.09	20,800.00
13	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
14	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
15	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
16	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
17	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
18	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
19	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
20	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
21	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
22	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
23	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
24	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
25	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
26	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
27	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
28	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
29	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
30	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
31	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
32	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
33	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
34	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
35	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
36	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
37	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
38	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
39	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
40	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
41	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
42	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
43	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
44	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
45	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
46	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
47	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
48	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
49	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
50	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
51	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
52	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
53	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
54	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
55	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
56	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
57	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
58	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
59	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
60	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
61	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
62	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
63	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
64	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
65	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
66	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
67	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
68	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
69	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
70	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
71	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
72	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
73	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
74	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
75	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
76	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
77	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
78	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
79	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
80	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
81	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
82	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
83	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
84	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
85	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
86	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
87	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
88	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
89	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
90	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
91	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
92	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
93	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
94	4,47	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
95	6,72	1,554.35	1,000.44	2,312.56	4,113.13	10,200.00
96						

# Our Dataset

# Where we got our dataset

kaggle



# Choosing the Right One

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Are there a significant number of data points?

The dataset has 14,500+ lines of data available before cleaning.

Are there any pre-existing categories?

The data already had categories based on Rotten Tomato scores, streaming services, and age rating.

Is there numerical data?

The Rotten Tomato scores could be used for statistical analysis.

How tedious would it be to clean the dataset?

It would be a matter of renaming categories for code usability and merging two datasets.

# cleaning our dataset

ID	Title	Year	Age	IMDb	Rotten To	Netflix	Hulu	Prime Vid	Disney+	Type
0	1 Breaking Bad	2008	18+	9.4/10	100/100	1	0	0	0	1
1	2 Stranger Things	2016	16+	8.7/10	96/100	1	0	0	0	1
2	3 Attack on Titan	2013	18+	9.0/10	95/100	1	1	0	0	1
3	4 Better Call Saul	2015	18+	8.8/10	94/100	1	0	0	0	1
4	5 Dark	2017	16+	8.8/10	93/100	1	0	0	0	1
5	6 Avatar: The Last Airbender	2005	7+	9.3/10	93/100	1	0	1	0	1
6	7 Peaky Blinders	2013	18+	8.8/10	93/100	1	0	0	0	1
7	8 The Walking Dead	2010	18+	8.2/10	93/100	1	0	0	0	1
8	9 Black Mirror	2011	18+	8.8/10	92/100	1	0	0	0	1
9	10 The Queen's Gambit	2020	18+	8.6/10	92/100	1	0	0	0	1
10	11 Mindhunter	2017	18+	8.6/10	90/100	1	0	0	0	1
11	12 Community	2009	7+	8.5/10	90/100	1	1	1	0	1
12	13 Narcos	2015	18+	8.8/10	90/100	1	0	0	0	1
13	14 Shameless	2011	18+	8.5/10	90/100	1	1	1	0	1
14	15 Money Heist	2017	18+	8.3/10	90/100	1	0	0	0	1
15	16 Marvel's Daredevil	2015	18+	8.6/10	90/100	1	0	0	0	1
16	17 Lucifer	2016	16+	8.1/10	90/100	1	0	0	0	1
17	18 Supernatural	2005	16+	8.4/10	89/100	1	0	0	0	1
18	19 The Witcher	2019	18+	8.2/10	89/100	1	0	0	0	1
19	20 Ozark	2017	18+	8.4/10	89/100	1	0	0	0	1
20	21 The Crown	2016	18+	8.6/10	89/100	1	0	0	0	1
21	22 Cobra Kai	2018	16+	8.6/10	89/100	1	0	0	0	1
22	23 The Blacklist	2013	16+	8.0/10	88/100	1	0	0	0	1
23	24 The Flash	2014	16+	7.6/10	88/100	1	0	0	0	1
24	25 Outlander	2014	18+	8.4/10	88/100	1	0	0	0	1
25	26 Fullmetal Alchemist: Brotherhood	2009	16+	9.1/10	88/100	1	1	0	0	1
26	27 The Good Place	2016	16+	8.2/10	88/100	1	0	0	0	1
27	28 House of Cards	2013	18+	8.7/10	88/100	1	0	0	0	1
28	29 Atypical	2017	16+	8.3/10	88/100	1	0	0	0	1
29	30 Grey's Anatomy	2005	16+	7.5/10	87/100	1	1	0	0	1
30	31 Arrested Development	2003	16+	8.7/10	87/100	1	1	0	0	1
31	32 Lupin	2021	18+	7.5/10	87/100	1	0	0	0	1
32	33 The Umbrella Academy	2019	16+	8.0/10	87/100	1	0	0	0	1
33	34 Orange Is the New Black	2013	18+	8.0/10	87/100	1	0	0	0	1
34	35 The Vampire Diaries	2009	16+	7.7/10	86/100	1	0	0	0	1



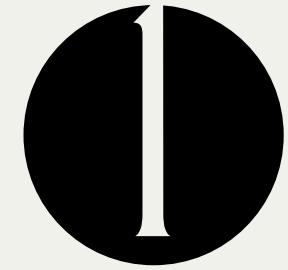
A	B	C	D	E	F	G	H	I	J	K
1	ID	Title	Year	Age	Rotten To	Netflix	Hulu	Prime Vid	Disney+	Type
2	0	1 The Irishman	2019	18+	98/100	1	0	0	0	0
3	1	2 Dangal	2016	7+	97/100	1	0	0	0	0
4	2	3 David Attenborough: A Life on Our Planet	2020	7+	95/100	1	0	0	0	0
5	3	4 Lagaan: Once Upon a Time in India	2001	7+	94/100	1	0	0	0	0
6	4	5 Roma	2018	18+	94/100	1	0	0	0	0
7	5	6 To All the Boys I've Loved Before	2018	13+	94/100	1	0	0	0	0
8	6	7 The Social Dilemma	2020	13+	93/100	1	0	0	0	0
9	7	8 Okja	2017	13+	92/100	1	0	0	0	0
10	8	9 The Ballad of Buster Scruggs	2018	16+	92/100	1	0	0	0	0
11	9	10 The Trial of the Chicago 7	2020	18+	92/100	1	0	0	0	0
12	10	11 Article 15	2019	18+	92/100	1	0	0	0	0
13	11	12 Jim & Andy: The Great Beyond- Final Cut	2017	18+	92/100	1	0	0	0	0
14	12	13 Dolemite Is My Name	2019	18+	92/100	1	0	0	0	0
15	13	14 Mudbound	2017	18+	91/100	1	0	0	0	0
16	14	15 Swades	2004	all	91/100	1	0	0	0	0
17	15	16 Fyre	2019	18+	91/100	1	0	0	0	0
18	16	17 Miss Americana	2020	18+	90/100	1	0	0	0	0
19	17	18 Virunga	2014	16+	90/100	1	0	0	0	0
20	18	19 Black Friday	2004	18+	90/100	1	0	0	0	0
21	19	20 Talvar	2015	7+	90/100	1	0	0	0	0
22	20	21 The King	2019	18+	90/100	1	0	0	0	0
23	21	22 John Mulaney: Kid Gorgeous at Radio City	2018	18+	89/100	1	0	0	0	0
24	22	23 I Am Mother	2019	13+	89/100	1	0	0	0	0
25	23	24 Tell Me Who I Am	2019	18+	89/100	1	0	0	0	0
26	24	25 The Departed	2006	18+	89/100	1	0	0	0	0
27	25	26 Winter on Fire: Ukraine's Fight for Democracy	2015	16+	89/100	1	0	0	0	0
28	26	27 Terminator 2: Judgment Day	1991	18+	89/100	1	0	0	0	0
29	27	28 I Lost My Body	2019	18+	89/100	1	0	0	0	0
30	28	29 Django Unchained	2012	18+	89/100	1	0	0	0	0
31	29	30 The Half of It	2020	13+	89/100	1	0	0	0	0
32	30	31 The Boy Who Harnessed the Wind	2019	7+	89/100	1	0	0	0	0
33	31	32 The Devil All the Time	2020	18+	89/100	1	0	0	0	0
34	32	33 The Fundamentals of Caring	2016	18+	89/100	1	0	0	0	0
35	33	34 Pieces of a Woman	2020	18+	88/100	1	0	0	0	0
36	34	35 Gerald's Game	2017	18+	88/100	1	0	0	0	0

MoviesOnStreamingPlatforms

# Cleaning our dataset

	A	B	C	D	E	F	G	H	I	J	K
1	ID	Title		Year	Age	Rotten Tomatoes	Netflix	Hulu	Prime Video	Disney+	Type
2	1	Breaking Bad		2008		100/100		1	0	0	0
3	2	Stranger Things		2016	16+	96/100		1	0	0	0
4	3	Attack on Titan		2013	18+	95/100		1	1	0	0
5	4	Better Call Saul		2015	18+	94/100		1	0	0	0
6	5	Dark		2017	16+	93/100		1	0	0	0
7	6	Avatar: The Last Airbender		2005	7+	93/100		1	0	1	0
8	7	Peaky Blinders		2013	18+	93/100		1	0	0	0
9	8	The Walking Dead		2010	18+	93/100		1	0	0	0
10	9	Black Mirror		2011	18+	92/100		1	0	0	0
11	10	The Queen's Gambit		2020	18+	92/100		1	0	0	0
12	11	Mindhunter		2017	18+	90/100		1	0	0	0
13	12	Community		2009	7+	90/100		1	1	1	0
14	13	Narcos		2015	18+	90/100		1	0	0	0
15	14	Shameless		2011	18+	90/100		1	1	1	0
16	15	Money Heist		2017	18+	90/100		1	0	0	0
17	16	Marvel's Daredevil		2015	18+	90/100		1	0	0	0
18	17	Lucifer		2016	16+	90/100		1	0	0	0
19	18	Supernatural		2005	16+	89/100		1	0	0	0
20	19	The Witcher		2019	18+	89/100		1	0	0	0
21	20	Ozark		2017	18+	89/100		1	0	0	0
22	21	The Crown		2016	18+	89/100		1	0	0	0
23	22	Cobra Kai		2018	16+	89/100		1	0	0	0

# Our Questions



Are there any meaningful differences in the average Rotten Tomatoes scores of each service?

How else are the streaming services different from each other?

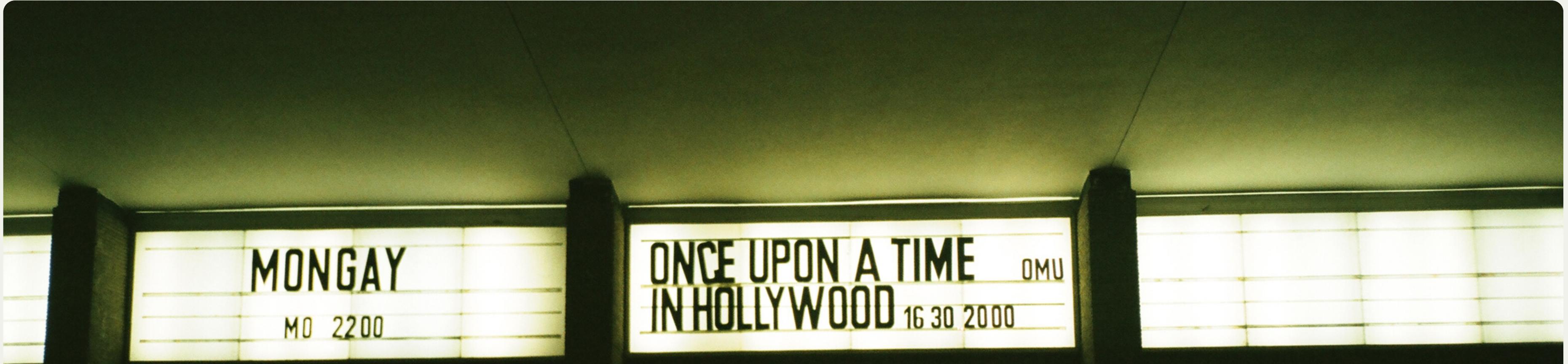


# Our Hypothesis

Netflix is the best streaming Service, because it is the most famous streaming service from the rest streaming services. Since Netflix is the most famous streaming service they must be doing something right. Right?

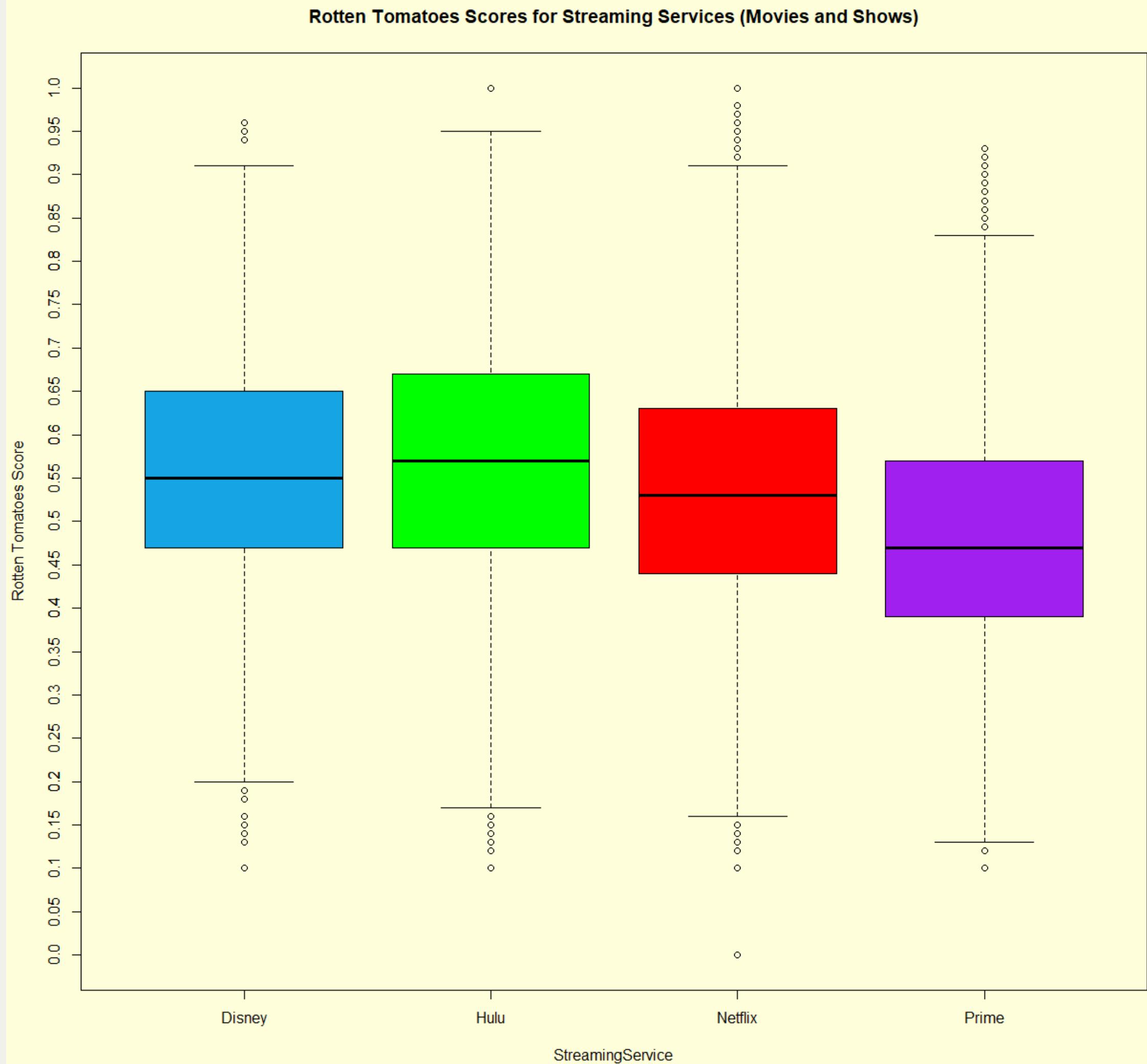
To test our hypothesis, our evaluation was centered on key categories extracted from the dataset, including Shows, Movies, Age Group, and Pricing. The goal of our assessment aimed to discern superior performance in a service based on these criteria.

# Our Graphs

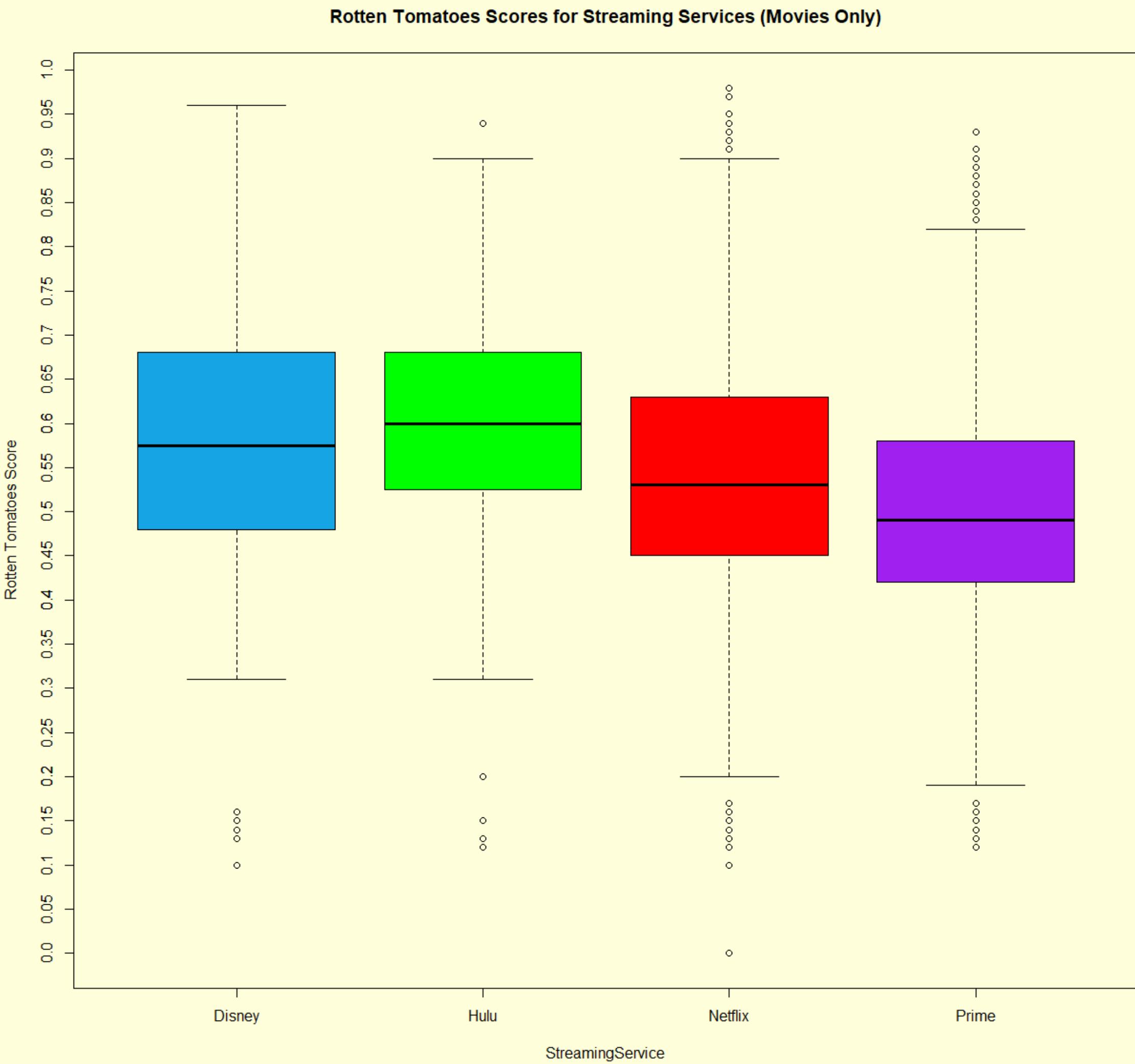


# Overall Average Score

Yes folks, Hulu is superior!

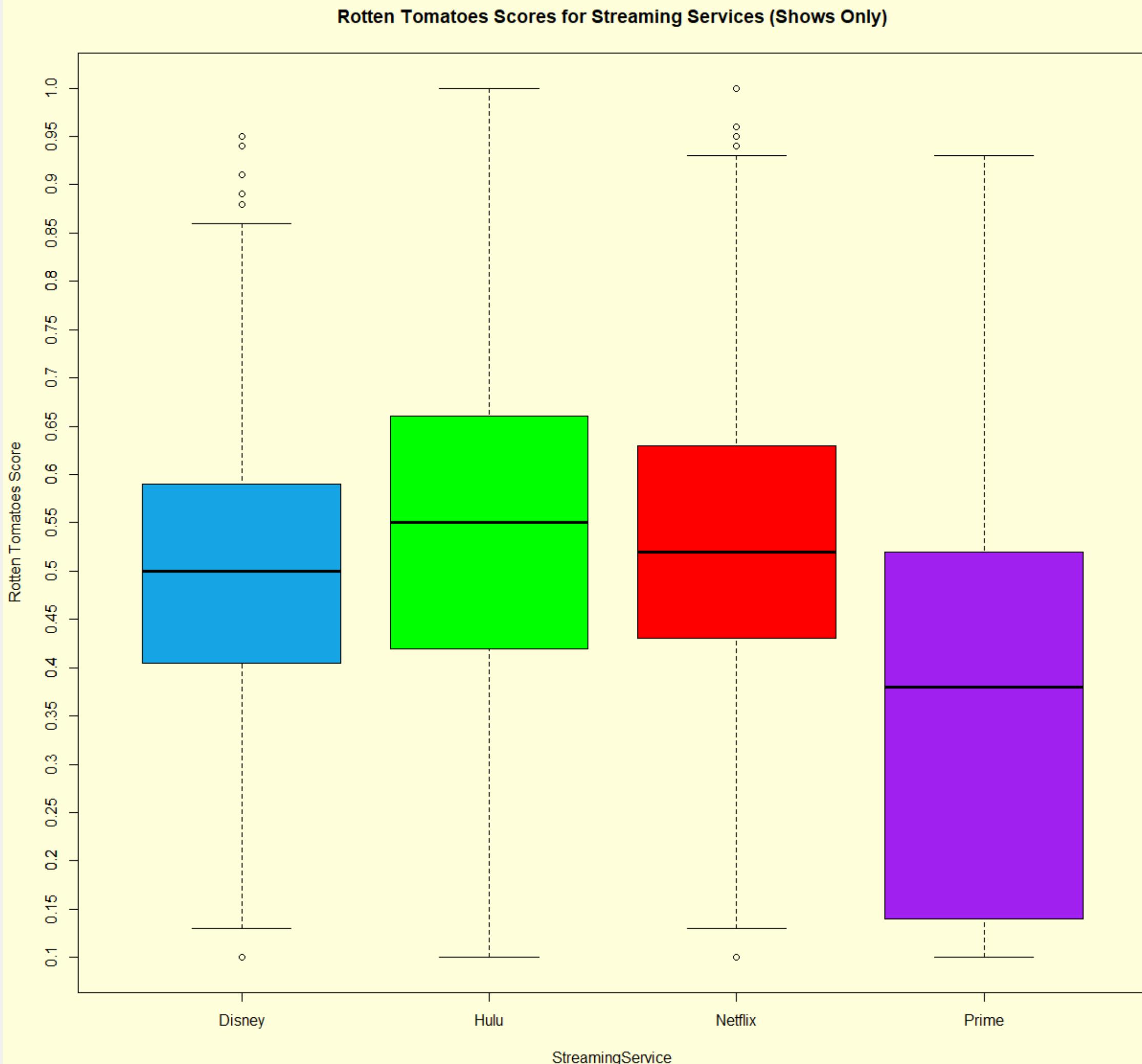


Average  
Score  
for Movies



# Average Score For Shows

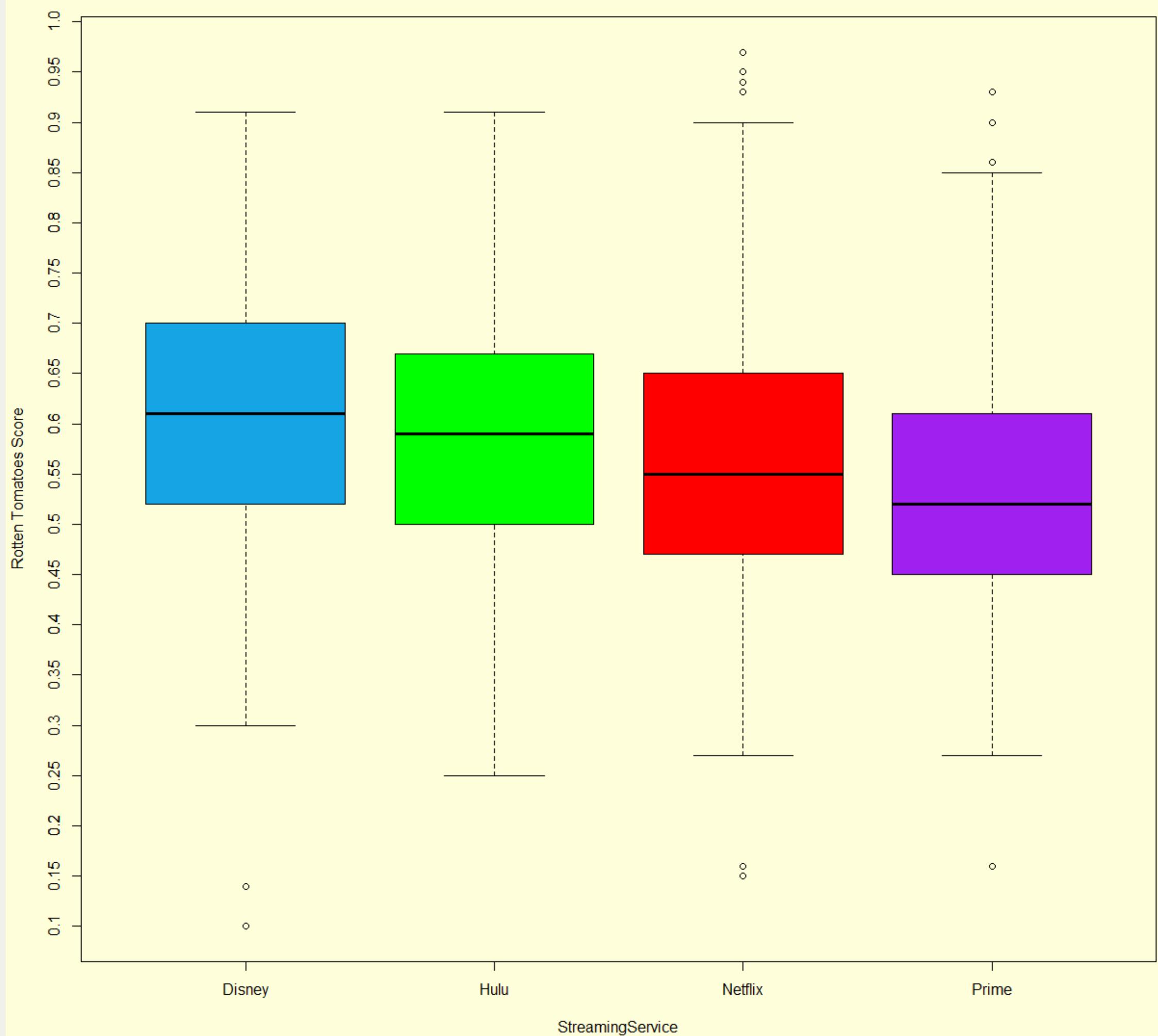
However, is Hulu truly  
the best streaming  
service for you?



# Which Streaming Service is the best based on Age?

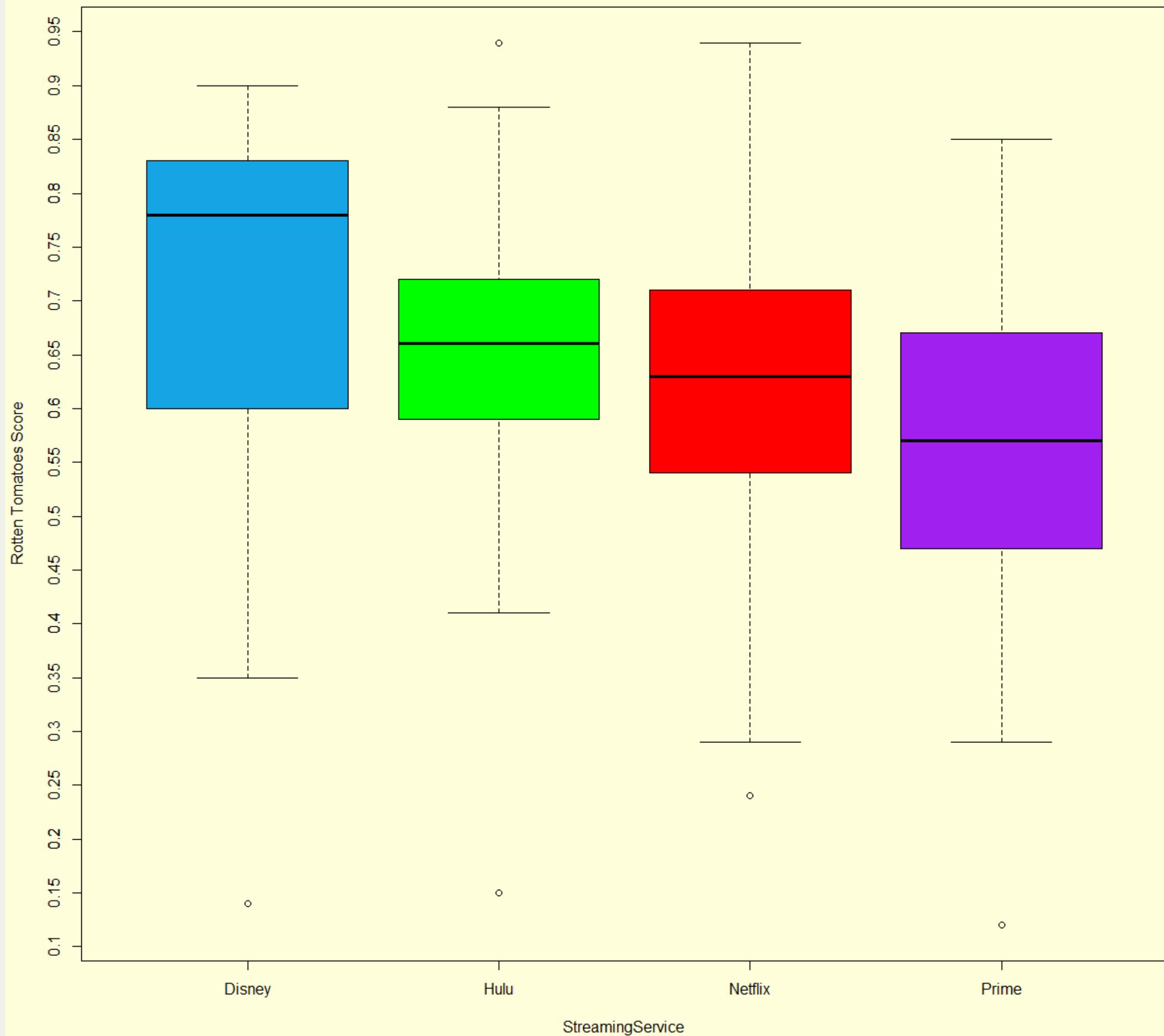
Age: 7+

Rotten Tomatoes Scores for Age 7 (Movies and Shows)



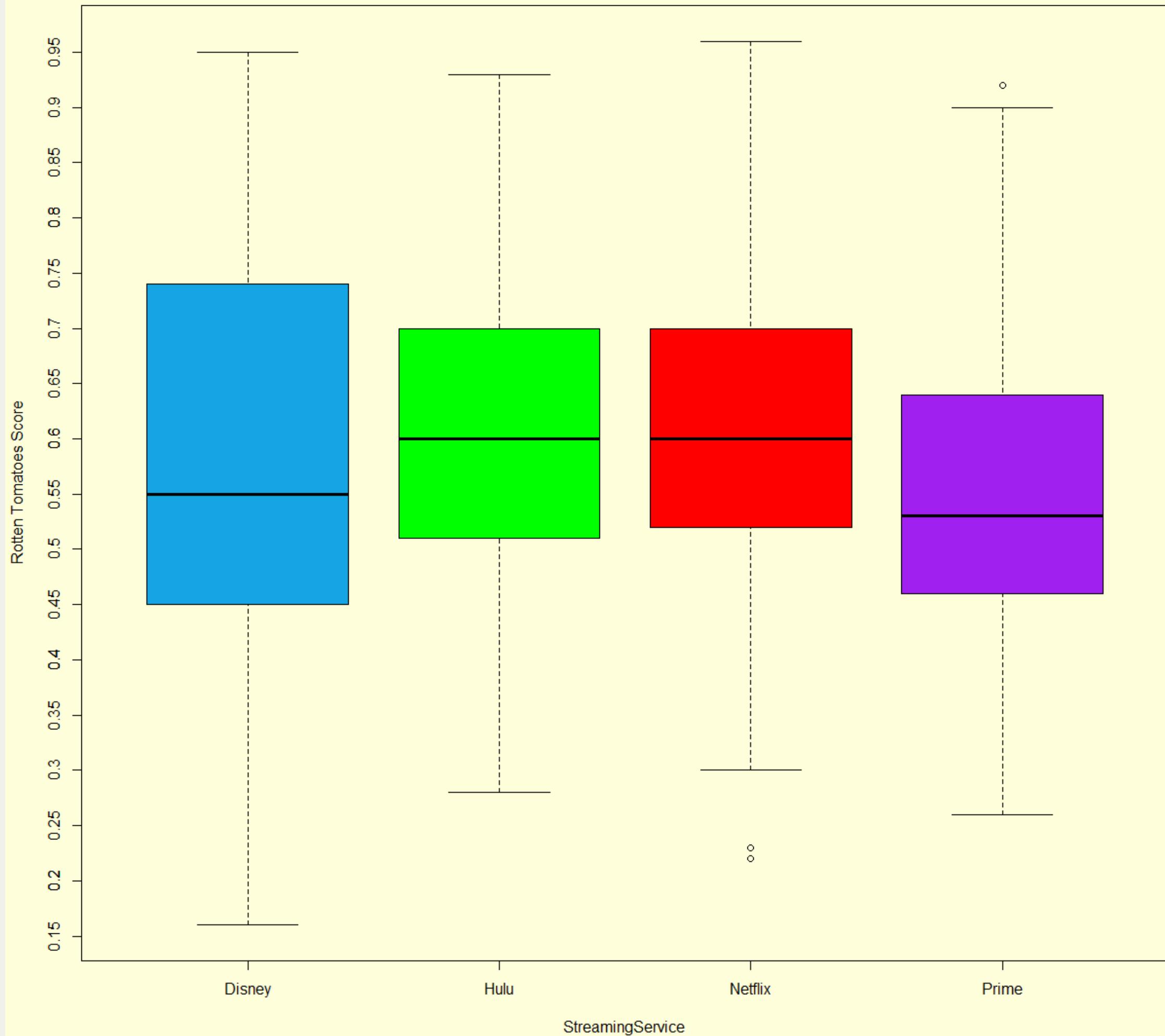
Age: 13+

Rotten Tomatoes Scores for Age 13+ (Movies and Shows)



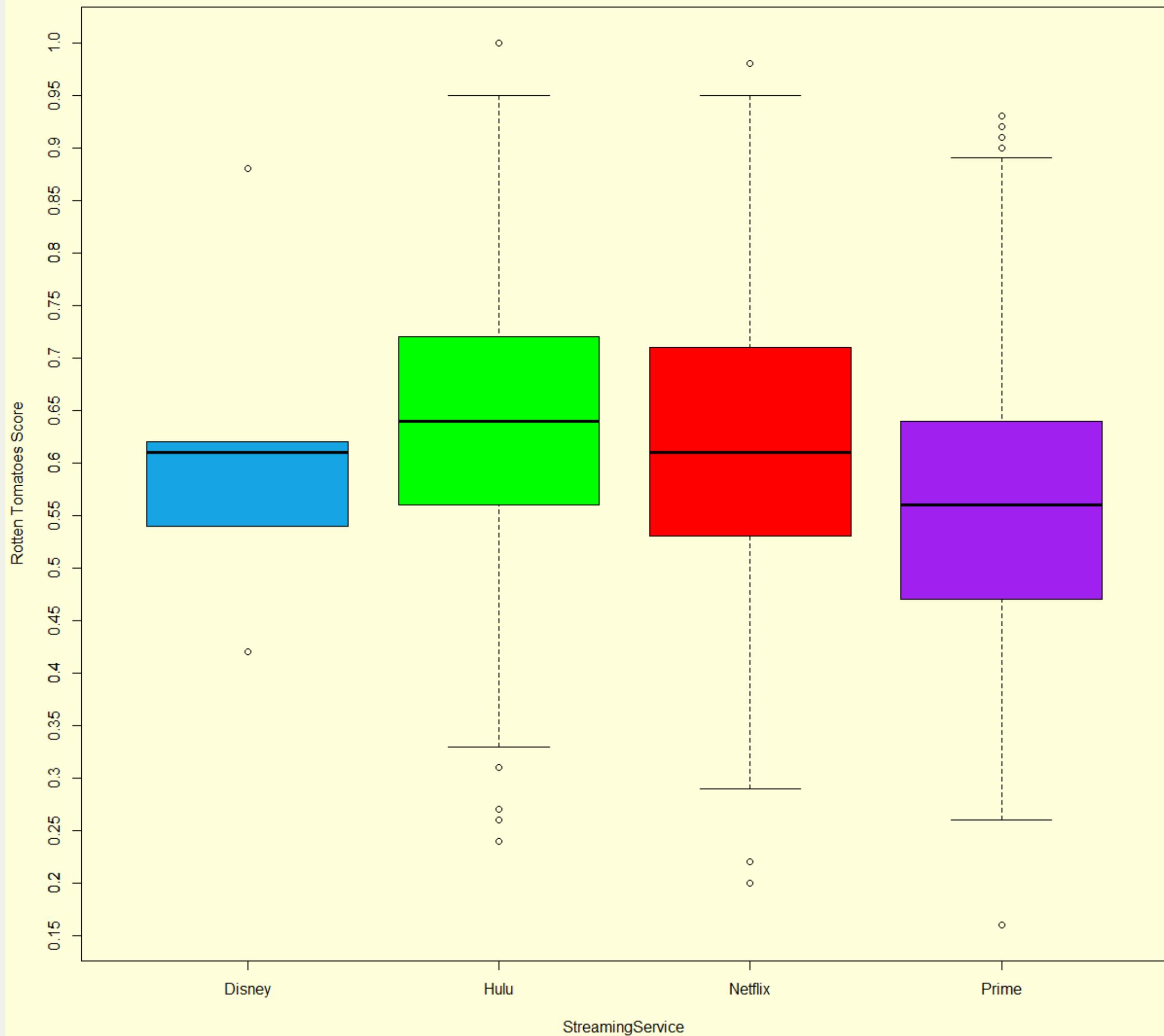
Age: 16+

Rotten Tomatoes Scores for Age 16+ (Movies and Shows)



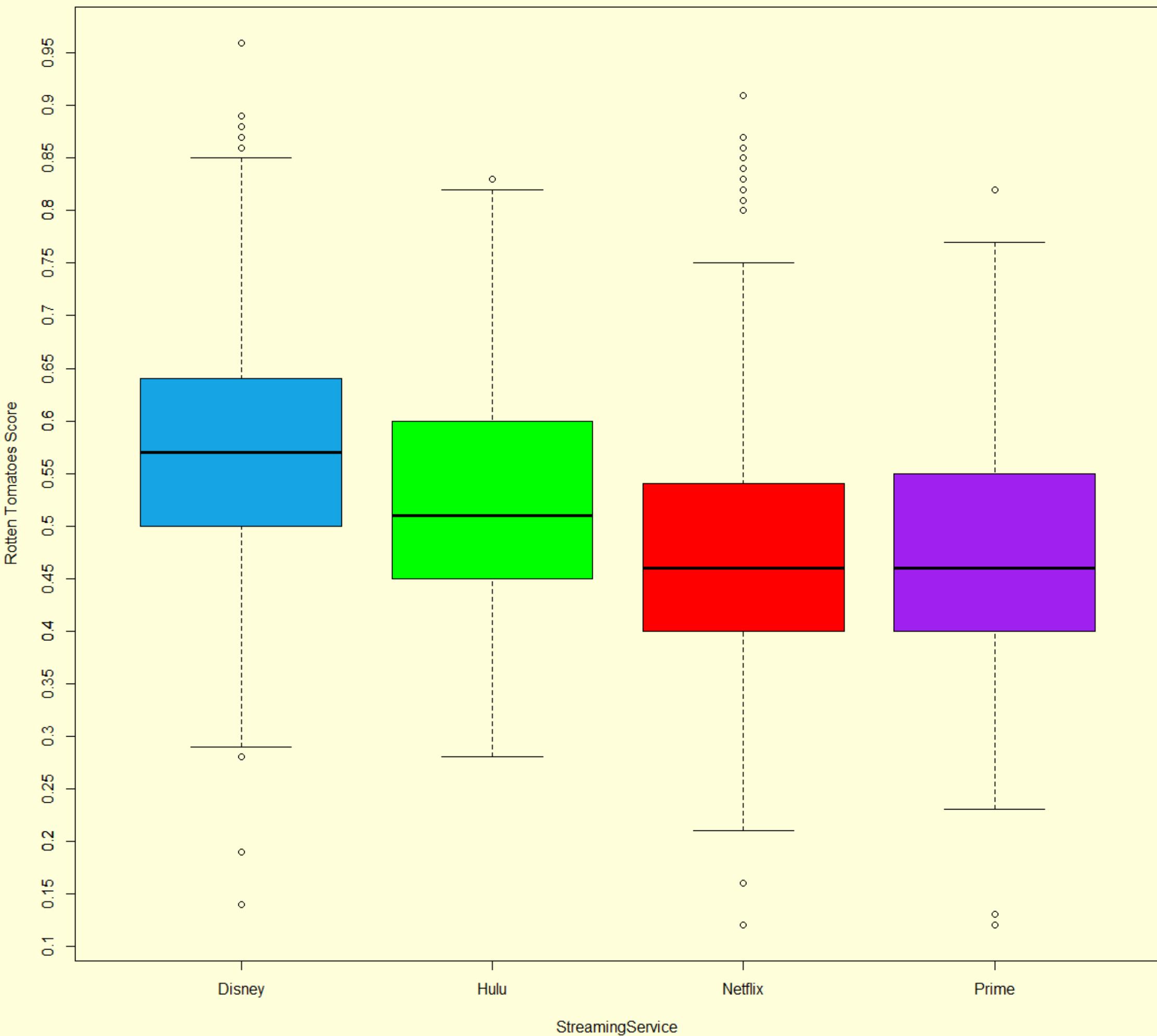
Age: 18+

Rotten Tomatoes Scores for Age 18+ (Movies and Shows)



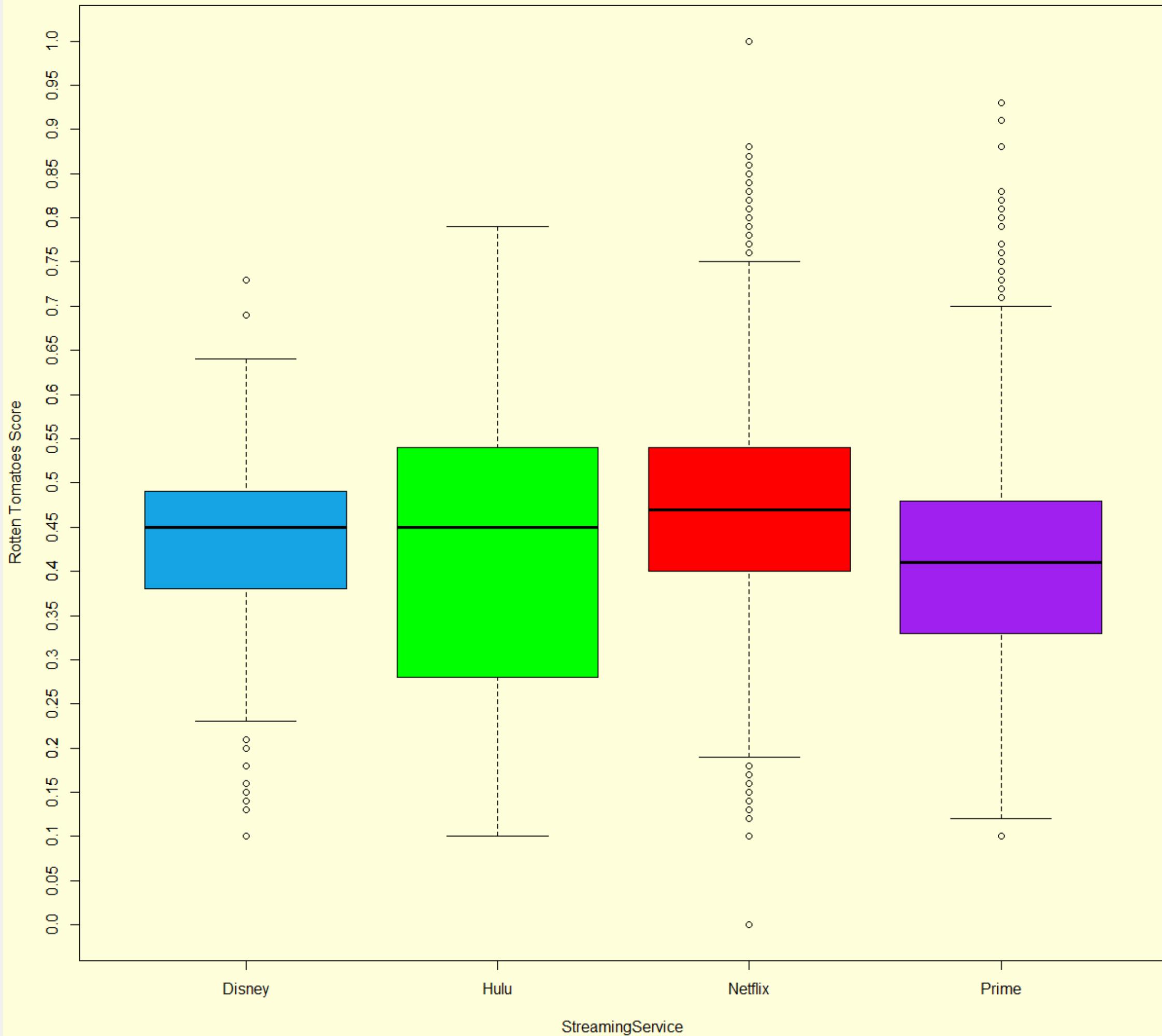
Age: All

Rotten Tomatoes Scores for Age All (Movies and Shows)



Age: NR

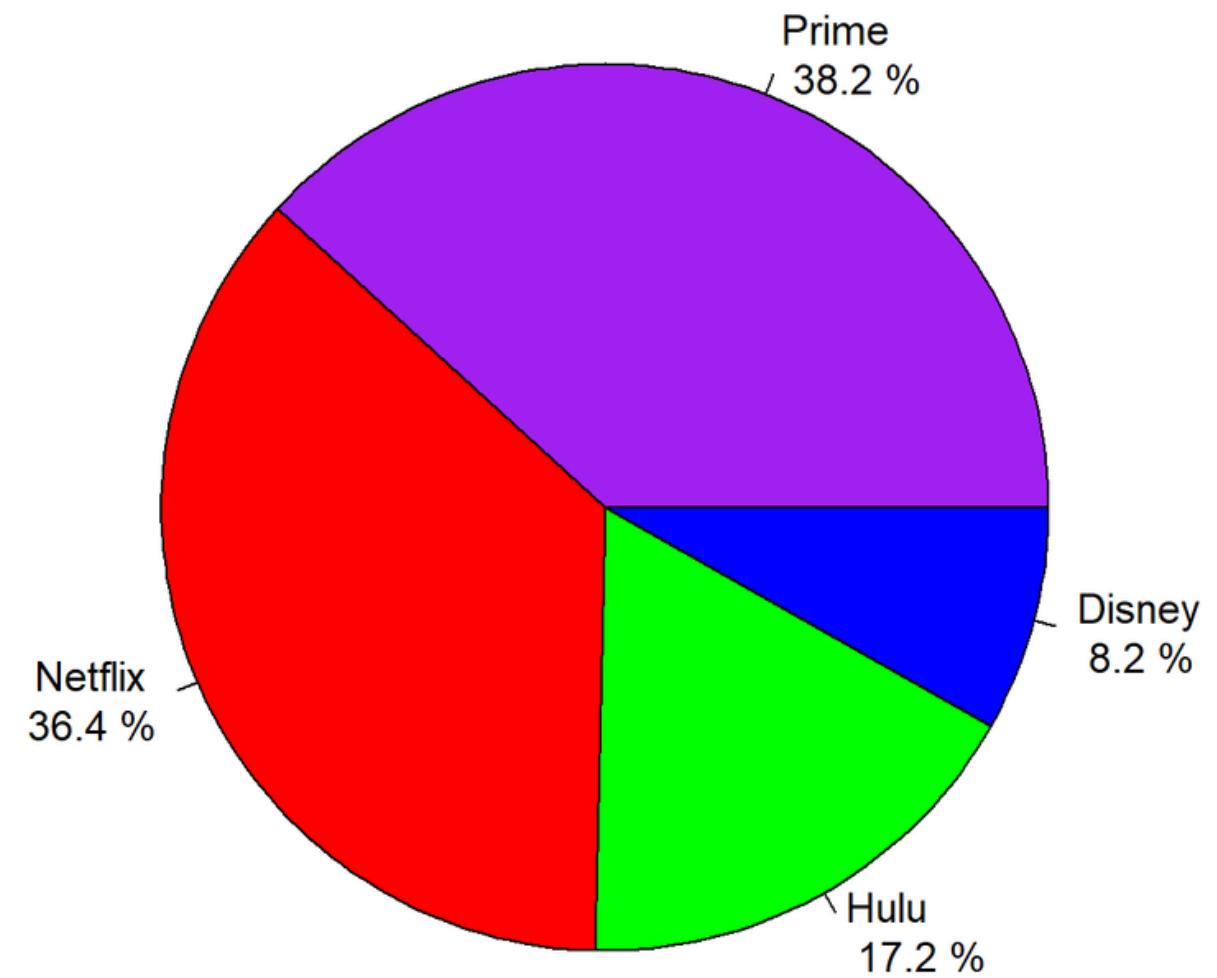
Rotten Tomatoes Scores for Age NR (Movies and Shows)



# Most Titles

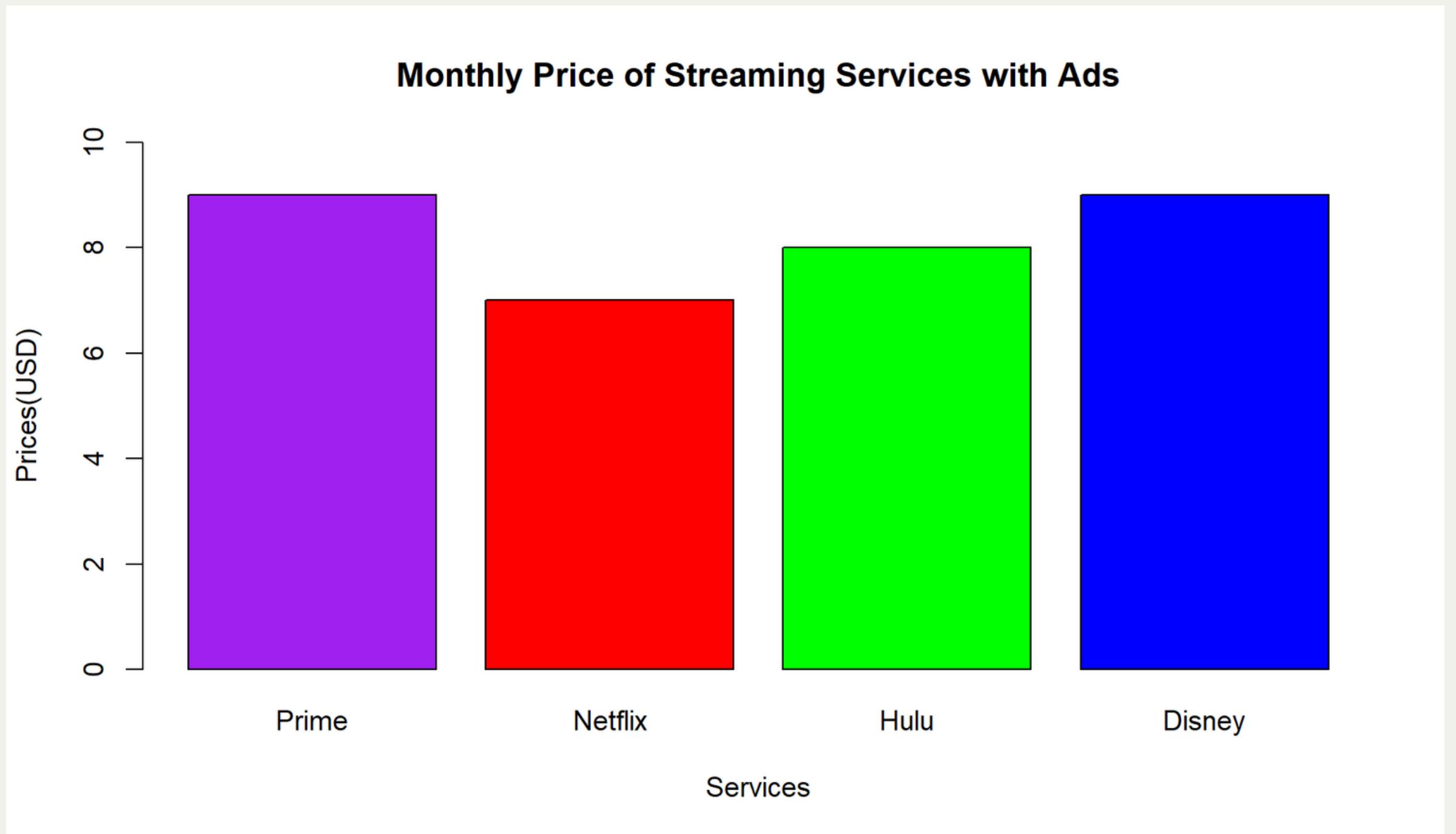
Prime has the most titles for both movies and shows when compared to its competitors.

**Streaming Service with the Most Titles**



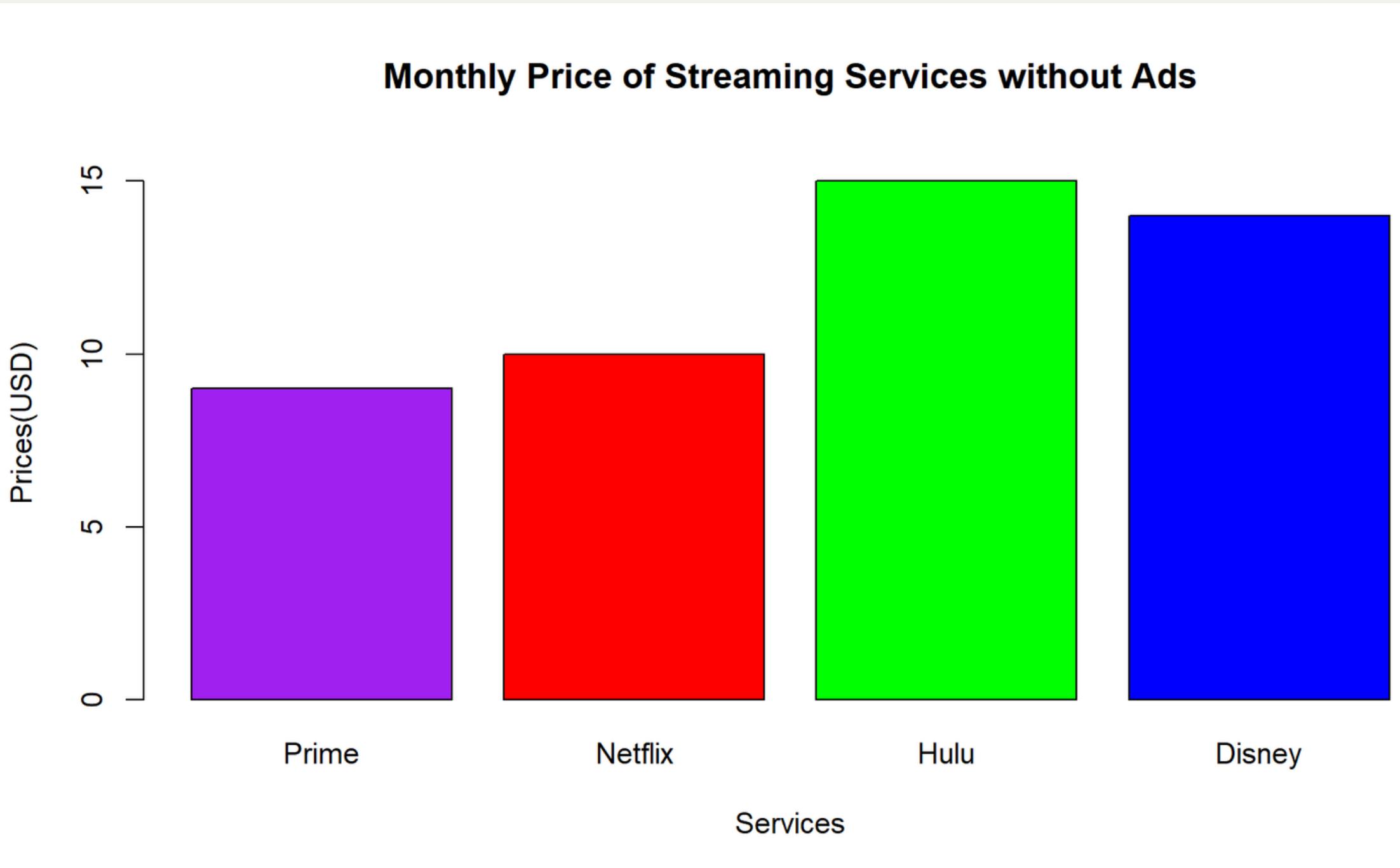
# Price Comparison

We compare the prices of the streaming services, with Disney and Prime coming at the most expensive with ads.



# Price Comparison

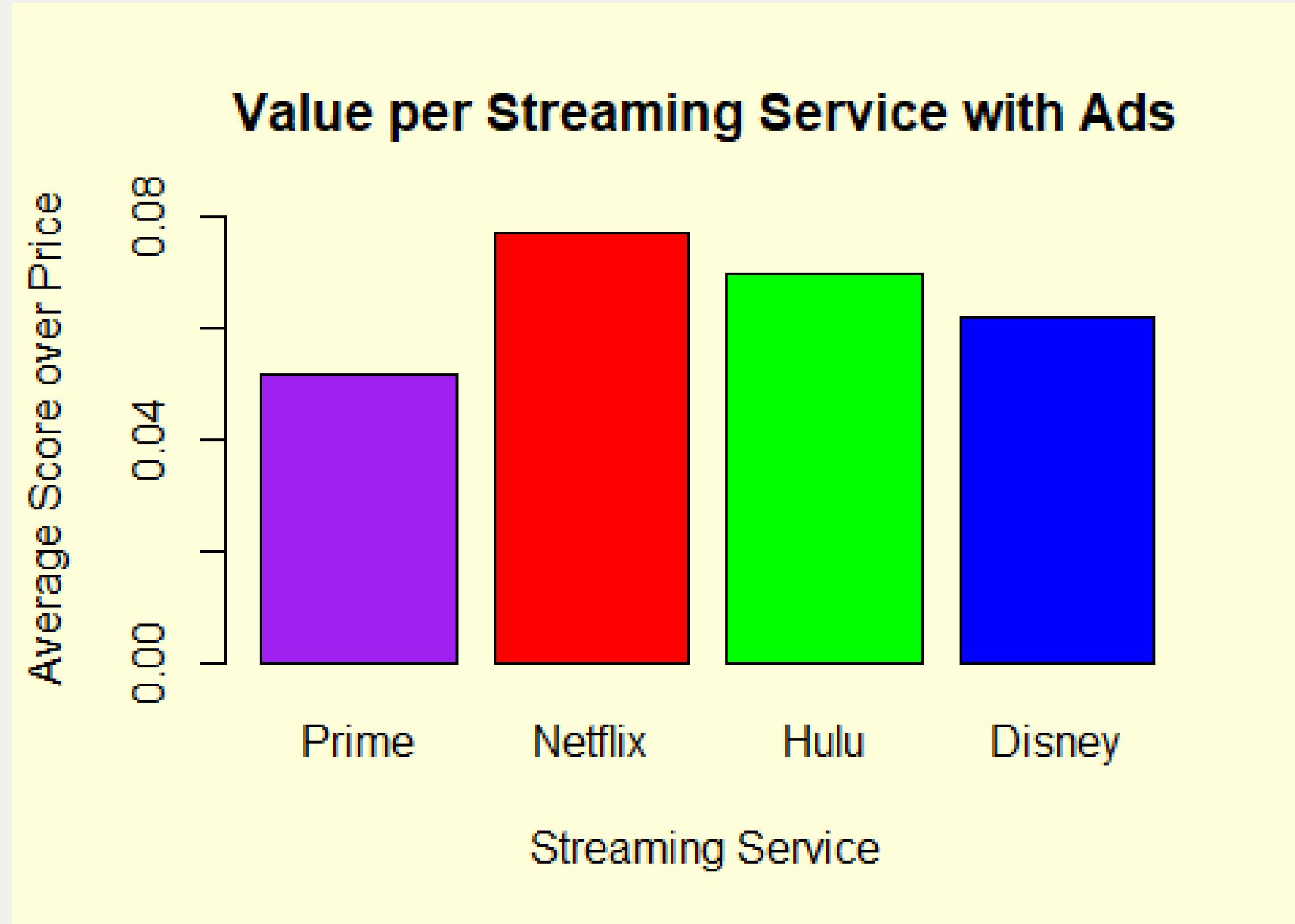
We compare the prices of the streaming services without ads, with Hulu coming in at the most expensive.



# Whose Price is best for their average Scores?

We identify the relationship between average Rotten Tomato Scores over Price with Ads.

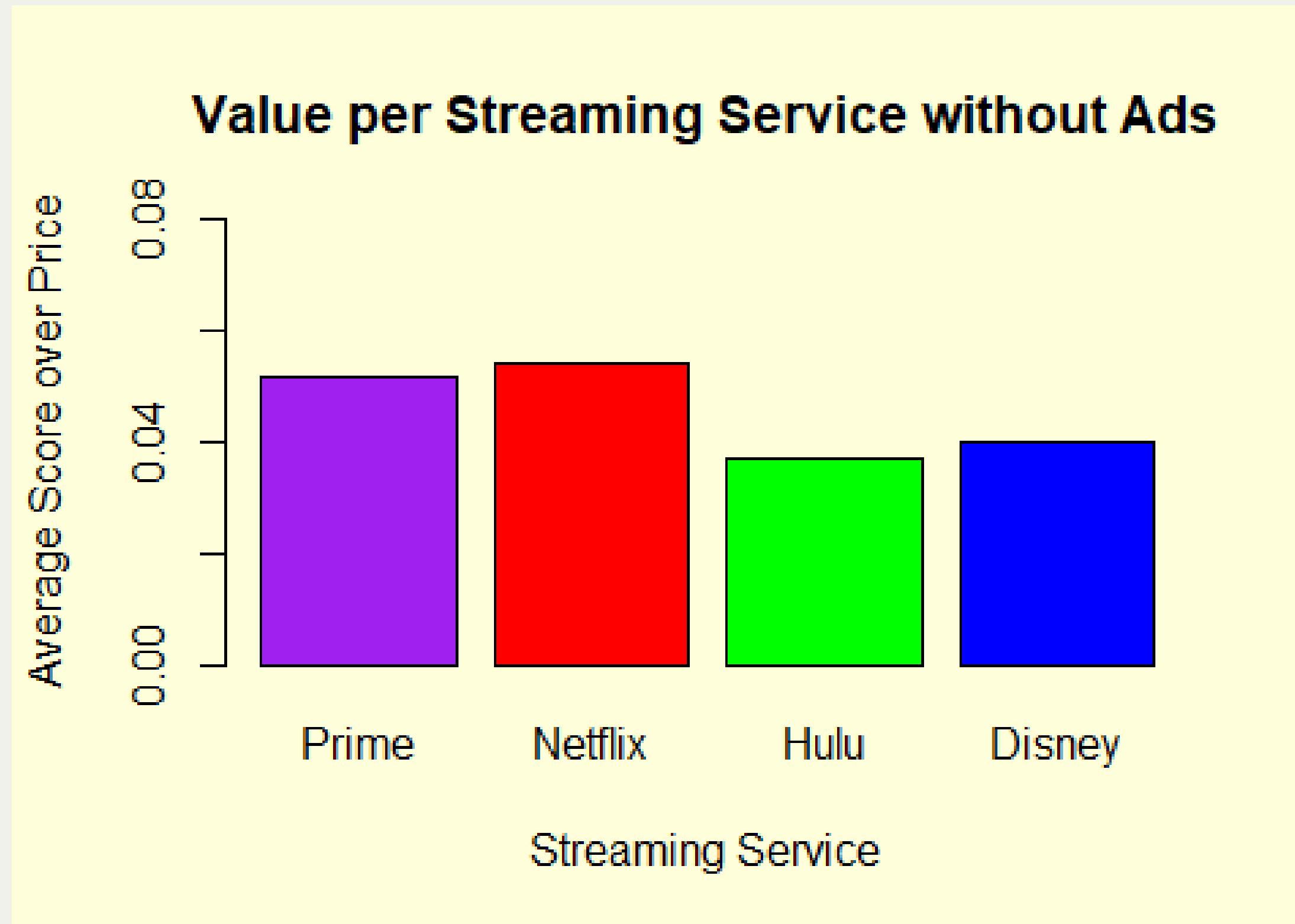
Netflix comes out on top with Prime finishing last.



# Whose Price is best for their average Scores?

We identify the relationship between average Rotten Tomato Scores over Price with Ads.

Every streaming service loses value due to increased costs except Prime.



# Total First Place Wins

## Prime

1. Most Titles
2. Best Cost without Ads

## Netflix

1. Best-scoring non-rated series
2. Best-scoring 16+ rated series
3. Best Cost with Ads
4. Best Ratings for Price with Ads
5. Best Ratings for Price without Ads

## Hulu

1. Best Rotten Tomato Scores (Film)
2. Best Rotten Tomato Scores (Shows)
3. Best Rotten Tomato Scores (Cumulative)
4. Age group 18+

## Disney

1. Best-scoring 7+ rated series
2. Best-scoring 13+rated series
3. Best-scoring E-rated series

# Closing Remarks

**Our hypothesis is correct, according to the tests we conducted which was centered on key categories extracted from the dataset, which were Shows, Movies, Age Group, and Pricing.**

The End