Hulu Movies and shows

> # Importing Packages

>

> library(tidyverse)

>

> #Loading Dataset

> View(Hulu\_titles)

>

> #Expolre the Hulu Dataset

> head(Hulu\_titles)

id title type

1 ts20475 Saturday Night Live SHOW

2 ts20413 M\*A\*S\*H SHOW

3 ts20005 I Love Lucy SHOW

4 ts20669 Taxi SHOW

5 ts21049 The Mary Tyler Moore Show SHOW

6 ts17013 The Brady Bunch SHOW

description

1 A late-night live television sketch comedy and variety show created by Lorne Michaels. The show's comedy sketches, which parody contemporary culture and politics, are performed by a large and varying cast of repertory and newer cast members. Each episode is hosted by a celebrity guest, who usually delivers an opening monologue and performs in sketches with the cast, and features performances by a musical guest.

2 The 4077th Mobile Army Surgical Hospital is stuck in the middle of the Korean war. With little help from the circumstances they find themselves in, they are forced to make their own fun. Fond of practical jokes and revenge, the doctors, nurses, administrators, and soldiers often find ways of making wartime life bearable.

3 Cuban Bandleader Ricky Ricardo would be happy if his wife Lucy would just be a housewife. Instead she tries constantly to perform at the Tropicana where he works, and make life comically frantic in the apartment building they share with landlords Fred and Ethel Mertz, who also happen to be their best friends.

4 Louie De Palma is a cantankerous, acerbic taxi dispatcher in New York City. He tries to maintain order over a collection of varied and strange characters who drive for him. As he bullies and insults them from the safety of his “cage,” they form a special bond among themselves, becoming friends and supporting each other through the inevitable trials and tribulations of life.

5 30-year-old single Mary Richards moves to Minneapolis to start a new life after a romantic break-up. There she reacquaints with Phyllis who rents her a room, and meets her upstairs neighbor and new best friend Rhoda. Mary unexpectedly lands a job as associate producer at the TV station WJM, where she works alongside her bristly boss, Lou; the comical newswriter, Murray; and the newscast's often-incompetent anchor, Ted.

6 When widower Mike Brady marries a lovely lady widow Carol Ann, their two families become one. These are the misadventures of this new couple, their six children, a dog named Tiger, and quirky housekeeper Alice.

release\_year age\_certification runtime genres production\_countries seasons

1 1975 TV-14 89 ['music', 'comedy'] ['US'] 47

2 1972 TV-PG 26 ['war', 'comedy', 'drama'] ['US'] 11

3 1951 TV-G 30 ['comedy', 'family'] ['US'] 9

4 1978 TV-PG 25 ['drama', 'comedy'] ['US'] 5

5 1970 TV-PG 28 ['comedy'] ['US'] 7

6 1969 TV-G 25 ['comedy', 'family'] ['US'] 5

imdb\_id imdb\_score imdb\_votes tmdb\_popularity tmdb\_score

1 tt0072562 8.0 47910 54.345 6.9

2 tt0068098 8.4 55882 27.308 8.0

3 tt0043208 8.5 25944 17.088 8.1

4 tt0077089 7.7 13379 14.346 7.3

5 tt0065314 8.2 8692 9.290 7.5

6 tt0063878 6.7 14080 15.042 7.0

> tail(Hulu\_titles)

id

2393 ts330286

2394 ts290117

2395 ts330263

2396 ts317705

2397 tm1018386

2398 tm1111028

title

2393 Best Animal Friends

2394 Nine Films About Technology

2395 Adoption Day

2396 Candified: Home For The Holidays

2397 The United States vs. Billie Holiday Special: Lee Daniels and Cast Interviewed by Oprah Winfrey

2398 Madagascar: A Little Wild Holiday Goose Chase

type

2393 SHOW

2394 SHOW

2395 SHOW

2396 SHOW

2397 MOVIE

2398 MOVIE

description

2393 Dodo Kids’ Best Animal Friends tells the stories of two REAL animals who are best friends for life.

2394 Nine loosely connected and darkly comic stories about human relationships in this modern age of smart phones, social media and connectivity.

2395 The best day of a shelter animal’s life is when he meets his forever family. Adoption Day brings you the story of animals falling in love with their new homes.

2396 The challenge - create a life-size house made of ...CANDY! Watch as Candy Queen Jackie Sorkin and her team of candy artists design, glue, melt and shape hundreds of thousands of sweet pieces to build a fantasy come to life….just in time for the holidays.

2397 A conversation moderated by Oprah Winfrey with Lee Daniels, Andra Day, Trevante Rhodes, and Susan-Lori Parks takes a peek behind the curtains of the new Hulu Original Film, The United States vs. Billie Holiday. Watch how the film unapologetically presents the icon’s Incredibles and tragic life

2398 Melman the Giraffe meets Hank, a goose who has been separated from his family and along with his friends, they embark on a wild goose chase around the city to reunite Hank with his merry flock.

release\_year age\_certification runtime genres production\_countries

2393 2021 3 [] ['US']

2394 2021 TV-MA 11 ['comedy', 'drama'] ['US']

2395 2021 6 ['documentation'] ['US']

2396 2021 42 ['reality'] ['US']

2397 2021 45 ['drama'] ['US']

2398 2021 G 24 ['comedy', 'family', 'animation'] []

seasons imdb\_id imdb\_score imdb\_votes tmdb\_popularity tmdb\_score

2393 1 NA NA 0.600 NA

2394 1 tt14215506 7.3 182 1.683 7

2395 1 NA NA 0.600 NA

2396 2 tt16287328 4.7 22 0.600 NA

2397 NA NA NA 1.400 9

2398 NA tt15474126 4.8 41 1.312 NA

> str(Hulu\_titles)

'data.frame': 2398 obs. of 15 variables:

$ id : chr "ts20475" "ts20413" "ts20005" "ts20669" ...

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$ type : chr "SHOW" "SHOW" "SHOW" "SHOW" ...

$ description : chr "A late-night live television sketch comedy and variety show created by Lorne Michaels. The show's comedy sketch"| \_\_truncated\_\_ "The 4077th Mobile Army Surgical Hospital is stuck in the middle of the Korean war. With little help from the ci"| \_\_truncated\_\_ "Cuban Bandleader Ricky Ricardo would be happy if his wife Lucy would just be a housewife. Instead she tries con"| \_\_truncated\_\_ "Louie De Palma is a cantankerous, acerbic taxi dispatcher in New York City. He tries to maintain order over a c"| \_\_truncated\_\_ ...

$ release\_year : int 1975 1972 1951 1978 1970 1969 1972 1965 1970 1972 ...

$ age\_certification : chr "TV-14" "TV-PG" "TV-G" "TV-PG" ...

$ runtime : int 89 26 30 25 28 25 27 50 27 25 ...

$ genres : chr "['music', 'comedy']" "['war', 'comedy', 'drama']" "['comedy', 'family']" "['drama', 'comedy']" ...

$ production\_countries: chr "['US']" "['US']" "['US']" "['US']" ...

$ seasons : int 47 11 9 5 7 5 6 3 5 NA ...

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$ imdb\_score : num 8 8.4 8.5 7.7 8.2 6.7 8.1 5.7 7.9 7.9 ...

$ imdb\_votes : int 47910 55882 25944 13379 8692 14080 5793 8 6231 2932 ...

$ tmdb\_popularity : num 54.34 27.31 17.09 14.35 9.29 ...

$ tmdb\_score : num 6.9 8 8.1 7.3 7.5 7 7.7 7.1 8.1 7.2 ...

> summary(Hulu\_titles)

id title type description release\_year

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Mode :character Mode :character Mode :character Mode :character Median :2016

Mean :2013

3rd Qu.:2019

Max. :2022

age\_certification runtime genres production\_countries seasons

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Mode :character Median : 48.00 Mode :character Mode :character Median : 2.000

Mean : 61.52 Mean : 3.936

3rd Qu.: 93.00 3rd Qu.: 5.000

Max. :229.00 Max. :63.000

NA's :1068

imdb\_id imdb\_score imdb\_votes tmdb\_popularity tmdb\_score

Length:2398 Min. :1.000 Min. : 5.0 Min. : 0.273 Min. : 1.000

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Mode :character Median :6.800 Median : 3451.0 Median : 10.703 Median : 7.000

Mean :6.699 Mean : 28286.9 Mean : 27.870 Mean : 6.886

3rd Qu.:7.600 3rd Qu.: 17056.0 3rd Qu.: 23.910 3rd Qu.: 7.700

Max. :9.500 Max. :996056.0 Max. :2989.846 Max. :10.000

NA's :166 NA's :167 NA's :50 NA's :160

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> glimpse(Hulu\_titles)

Rows: 2,398

Columns: 15

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$ title <chr> "Saturday Night Live", "M\*A\*S\*H", "I Love Lucy", "Taxi", "The Mary Tyler …

$ type <chr> "SHOW", "SHOW", "SHOW", "SHOW", "SHOW", "SHOW", "SHOW", "SHOW", "SHOW", "…

$ description <chr> "A late-night live television sketch comedy and variety show created by L…

$ release\_year <int> 1975, 1972, 1951, 1978, 1970, 1969, 1972, 1965, 1970, 1972, 1952, 1962, 1…

$ age\_certification <chr> "TV-14", "TV-PG", "TV-G", "TV-PG", "TV-PG", "TV-G", "TV-PG", "TV-PG", "",…

$ runtime <int> 89, 26, 30, 25, 28, 25, 27, 50, 27, 25, 43, 30, 86, 81, 25, 25, 54, 99, 2…

$ genres <chr> "['music', 'comedy']", "['war', 'comedy', 'drama']", "['comedy', 'family'…

$ production\_countries <chr> "['US']", "['US']", "['US']", "['US']", "['US']", "['US']", "['US']", "['…

$ seasons <int> 47, 11, 9, 5, 7, 5, 6, 3, 5, NA, 1, 6, NA, NA, NA, NA, 21, NA, 34, NA, 11…

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$ imdb\_votes <int> 47910, 55882, 25944, 13379, 8692, 14080, 5793, 8, 6231, 2932, 48, 2797, 5…

$ tmdb\_popularity <dbl> 54.345, 27.308, 17.088, 14.346, 9.290, 15.042, 14.200, 30.079, 10.610, 8.…

$ tmdb\_score <dbl> 6.9, 8.0, 8.1, 7.3, 7.5, 7.0, 7.7, 7.1, 8.1, 7.2, NA, 7.5, 6.9, 6.9, 6.7,…

>

> # Question:1 How have movies and shows times changed throughout the decades?

> # Creating Data Frames for Movies.

> HuluMOVIE <- (Hulu\_titles%>% filter(type %in% c('MOVIE')))

> write.csv(HuluMOVIE,"View(Hulu\_titles)", row.names = FALSE)

> HuluMOVIE

id title type

1 tm147043 The Lorax MOVIE

2 tm1236 A Boy Named Charlie Brown MOVIE

3 tm156894 Snoopy, Come Home MOVIE

4 tm11186 The Cat in the Hat MOVIE

5 tm189299 Dr. Seuss on the Loose MOVIE

6 tm19438 The Princess Bride MOVIE

7 tm123377 The Breakfast Club MOVIE

8 tm153016 Pretty Woman MOVIE

9 tm44887 Akira MOVIE

10 tm180542 Once Upon a Time in America MOVIE

11 tm120571 Peggy Sue Got Married MOVIE

12 tm126876 St. Elmo's Fire MOVIE

13 tm20951 Can't Buy Me Love MOVIE

14 tm20552 Roxanne MOVIE

15 tm140986 Look Who's Talking MOVIE

16 tm150087 Postcards From the Edge MOVIE

17 tm19411 Blind Date MOVIE

18 tm116666 Tough Guys MOVIE

19 tm150530 Spaced Invaders MOVIE

20 tm131958 Three Fugitives MOVIE

21 tm51100 A Very Brady Christmas MOVIE

22 tm130335 The Dream Is Alive MOVIE

23 tm47494 Hail Columbia! MOVIE

24 tm189861 Dazed and Confused MOVIE

25 tm62326 Eyes Wide Shut MOVIE

26 tm191327 Demolition Man MOVIE

27 tm8726 Billy Madison MOVIE

28 tm130465 White Men Can't Jump MOVIE

29 tm192099 L.A. Confidential MOVIE

30 tm192037 Starship Troopers MOVIE

31 tm49114 The Insider MOVIE

32 tm20441 Dude, Where's My Car? MOVIE

33 tm15925 Sense and Sensibility MOVIE

34 tm49829 Pleasantville MOVIE

35 tm192469 My Best Friend's Wedding MOVIE

36 tm63325 8MM MOVIE

37 tm61517 Practical Magic MOVIE

38 tm191772 Seven Years in Tibet MOVIE

39 tm25239 Me, Myself & Irene MOVIE

40 tm190658 As Good as It Gets MOVIE

41 tm111688 Guarding Tess MOVIE

42 tm49178 Vampires MOVIE

43 tm191953 The Edge MOVIE

44 tm124365 Single White Female MOVIE

45 tm49343 The Negotiator MOVIE

46 tm115798 Wolf MOVIE

47 tm16365 Casper MOVIE

48 tm191331 Conspiracy Theory MOVIE

49 tm54529 Stuart Little MOVIE

50 tm16522 Copycat MOVIE

51 tm189032 Hot Shots! Part Deux MOVIE

52 tm58856 Antz MOVIE

53 tm188787 Ninja Scroll MOVIE

54 tm104131 Fly Away Home MOVIE

55 tm17221 Center Stage MOVIE

56 tm37642 Blue Streak MOVIE

57 tm65812 The Siege MOVIE

58 tm114038 In the Army Now MOVIE

59 tm118344 The Flintstones MOVIE

60 tm47657 Deuce Bigalow: Male Gigolo MOVIE

61 tm189589 The Program MOVIE

62 tm183610 Striking Distance MOVIE

63 tm27967 Vertical Limit MOVIE

64 tm12865 Boys on the Side MOVIE

65 tm58151 Dangerous Beauty MOVIE

66 tm190891 Nowhere to Run MOVIE

description

1 The Once-ler, a ruined industrialist, tells the tale of his rise to wealth and subsequent fall, as he disregarded the warnings of a wise old forest creature called the Lorax about the environmental destruction caused by his greed.

2 Poor Charlie Brown. He can't fly a kite, and he always loses in baseball. Having his faults projected onto a screen by Lucy doesn't help him much either. Against the sage advice and taunting of the girls in his class, he volunteers for the class spelling bee...and wins!

3 When Snoopy receives a letter from his original owner Lila, he goes to visit her in the hospital while Charlie Brown and the gang are on the lookout for him. Suddenly, Snoopy feels that he must go live with Lila, but must say goodbye to all his friends. In his adventure to the hospital, he encounters numerous "No Dogs Allowed" signs, an annoying little girl who desires to keep him, and more!

4 In a marvelously animated version of one of the most beloved of all Dr. Seuss tales, two youngsters find themselves at home with nothing to do on a rainy afternoon. But when the magical, mischievous Cat in the Hat arrives on the scene, they're all cat-apulted into a day of rousing, romping, outlandish antics they - and you - will never forget!

5 The pressure to conform, the inevitability of change, and the resistance to trying something new form the basis for the usual madcap adventures associated with the creative mind of Dr. Seuss. "Dr. Seuss on the Loose" builds upon three short stories - "The Sneetches," "The Zax" and "Green Eggs and Ham" - to create a thematic trio that explores the often fickle and flexible world of attitudes.

6 In this enchantingly cracked fairy tale, the beautiful Princess Buttercup and the dashing Westley must overcome staggering odds to find happiness amid six-fingered swordsmen, murderous princes, Sicilians and rodents of unusual size. But even death can't stop these true lovebirds from triumphing.

7 Five high school students from different walks of life endure a Saturday detention under a power-hungry principal. The disparate group includes rebel John, princess Claire, outcast Allison, brainy Brian and Andrew, the jock. Each has a chance to tell his or her story, making the others see them a little differently -- and when the day ends, they question whether school will ever be the same.

8 When a millionaire wheeler-dealer enters a business contract with a Hollywood hooker Vivian Ward, he loses his heart in the bargain.

9 A secret military project endangers Neo-Tokyo when it turns a biker gang member into a rampaging psychic psychopath that only two teenagers and a group of psychics can stop.

10 A former Prohibition-era Jewish gangster returns to the Lower East Side of Manhattan over thirty years later, where he once again must confront the ghosts and regrets of his old life.

11 Peggy Sue faints at a high school reunion. When she wakes up she finds herself in her own past, just before she finished school.

12 A group of friends graduate from the halls of Georgetown University into lives that revolve around sex, paychecks, and career aspirations. Kirby waits tables to pay for law school. His roommate Kevin struggles at a D.C. newspaper as he lusts after the stylish Jules. Jules may be an object of adoration and envy, but secretly she has problems of her own. Demure Wendy is in love with Billy—a sax player and an irresponsible drunk. Alex wants it all: a career in politics and the appearance of a traditional home life. Alex's girlfriend, Leslie, is an ambitious architect who doesn't know about his infidelity, but his new allegiance to the Republican Party is already enough to put her off marriage.

13 Nerdy high schooler Ronald Miller rescues cheerleader Cindy Mancini from parental punishment after she accidentally destroys her mother's designer clothes. Ronald agrees to pay for the $1,000 outfit on one condition: that she will act as though they're a couple for an entire month. As the days pass, however, Cindy grows fond of Ronald, making him popular. But when Ronald's former best friend gets left behind, he realizes that social success isn't everything.

14 Based on the play 'Cyrano de Bergerac', large-nosed C.D. Bales falls for the beautiful Roxanne—while she falls for his personality but another man's looks.

15 Mollie is a single working mother who's out to find the perfect father for her child. Her baby, Mikey, prefers James, a cab driver turned babysitter who has what it takes to make them both happy. But Mollie won't even consider James. It's going to take all the tricks a baby can think of to bring them together before it's too late.

16 Substance-addicted Hollywood actress, Suzanne Vale is on the skids. After a spell at a detox centre her film company insists as a condition of continuing to employ her that she live with her mother, herself once a star and now a champion drinker. Such a set-up is bad news for Suzanne who has struggled for years to get out of her mother's shadow, and who still treats her like a child. Despite these and other problems, Suzanne begins to see the funny side of her situation, and also realises that not only do daughters have mothers—mothers do too.

17 When bachelor Walter Davis is set up with his sister-in-law's pretty cousin, Nadia Gates, a seemingly average blind date turns into a chaotic night on the town. Walter's brother, Ted, tells him not to let Nadia drink alcohol, but he dismisses the warning and her behaviour gets increasingly wild. Walter and Nadia's numerous incidents are made even worse as her former lover David relentlessly follows them around town.

18 Harry Doyle and Archie Lang are two old-time train robbers, who held up a train in 1956 and have been incarcerated for thirty years. After serving their time, they are released from jail and have to adjust to a new life of freedom. and soon realize that they still have the pizzazz when, picking up their prison checks at a bank, they foil a robbery attempt.

19 A crew of Martians overhears a radio broadcast of Orson Welles' "War of the Worlds" coming from Earth, and, thinking the Martian fleet is attacking Earth, they land their broken-down ship in a backwater mid-American town. As luck would have it, they land on Halloween and get mistaken for trick-or-treaters. Comedy ensues as the Martians try to get taken seriously.

20 On his first day after being released from jail for 14 armed bank robberies, Lucas finds himself caught up in someone else's robbery. Perry has decided to hold up the local bank to raise money so that he can keep his daughter, Meg, and get her the treatment she needs. Dugan, a detective, assumes Lucas helped plan the robbery, and hence Lucas, Perry and Meg become three fugitives.

21 Almost 20 years after the start of the original "Brady Bunch" the kids are grown up and have kids of their own. Everyone is having a wonderful time back at the family house for Christmas, until Mike learns of a structural problem in one of the buildings he designed. As he is inspecting the problem, the building collapses, trapping him inside. As the whole family waits by the pile of rubble, they fear the worst. Will Dad be all right?

22 The Dream Is Alive takes you into space alongside the astronauts on the space shuttle. Share with them the delights of zero gravity while working, eating and sleeping in orbit around the Earth. Float as never before over the towering Andes, the boot of Italy, Egypt and the Nile. Witness firsthand a tension-filled satellite capture and repair and the historic first spacewalk by an American woman.

23 The maiden voyage of Columbia, the first space shuttle, is recounted with footage shot on the ground and in space.

24 The adventures of a group of Texas teens on their last day of school in 1976, centering on student Randall Floyd, who moves easily among stoners, jocks and geeks. Floyd is a star athlete, but he also likes smoking weed, which presents a conundrum when his football coach demands he sign a "no drugs" pledge.

25 After Dr. Bill Harford's wife, Alice, admits to having sexual fantasies about a man she met, Bill becomes obsessed with having a sexual encounter. He discovers an underground sexual group and attends one of their meetings -- and quickly discovers that he is in over his head.

26 Simon Phoenix, a violent criminal cryogenically frozen in 1996, escapes during a parole hearing in 2032 in the utopia of San Angeles. Police are incapable of dealing with his violent ways and turn to his captor, who had also been cryogenically frozen after being wrongfully accused of killing 30 innocent people while apprehending Phoenix.

27 Billy Madison is the 27 year-old son of Bryan Madison, a very rich man who has made his living in the hotel industry. Billy stands to inherit his father's empire, but only if he can make it through all 12 grades, 2 weeks per grade, to prove that he has what it takes to run the family business.

28 Billy Hoyle and Sidney Deane are an unlikely pair of basketball hustlers. They team up to con their way across the courts of Los Angeles, playing a game that's fast dangerous - and funny.

29 Three detectives in the corrupt and brutal L.A. police force of the 1950s use differing methods to uncover a conspiracy behind the shotgun slayings of the patrons at an all-night diner.

30 Set in the future, the story follows a young soldier named Johnny Rico and his exploits in the Mobile Infantry. Rico's military career progresses from recruit to non-commissioned officer and finally to officer against the backdrop of an interstellar war between mankind and an arachnoid species known as "the Bugs".

31 Tells the true story of a 60 Minutes television series exposé of the tobacco industry, as seen through the eyes of a real tobacco executive, Jeffrey Wigand.

32 Two stoners wake up after a night of partying and cannot remember where they parked their car.

33 Rich Mr. Dashwood dies, leaving his second wife and her daughters poor by the rules of inheritance. Two daughters are the titular opposites.

34 Geeky teenager David and his popular twin sister, Jennifer, get sucked into the black-and-white world of a 1950s TV sitcom called "Pleasantville," and find a world where everything is peachy keen all the time. But when Jennifer's modern attitude disrupts Pleasantville's peaceful but boring routine, she literally brings color into its life.

35 When she receives word that her longtime platonic pal Michael O'Neal is getting married to debutante Kimberly Wallace, food critic Julianne Potter realizes her true feelings for Michael -- and sets out to sabotage the wedding.

36 A small, seemingly innocuous plastic reel of film leads surveillance specialist Tom Welles down an increasingly dark and frightening path. With the help of the streetwise Max, he relentlessly follows a bizarre trail of evidence to determine the fate of a complete stranger. As his work turns into obsession, he drifts farther and farther away from his wife, family and simple life as a small-town PI.

37 Sally and Gillian Owens, born into a magical family, have mostly avoided witchcraft themselves. But when Gillian's vicious boyfriend, Jimmy Angelov, dies unexpectedly, the Owens sisters give themselves a crash course in hard magic. With policeman Gary Hallet growing suspicious, the girls struggle to resurrect Angelov -- and unwittingly inject his corpse with an evil spirit that threatens to end their family line.

38 Austrian mountaineer, Heinrich Harrer journeys to the Himalayas without his family to head an expedition in 1939. But when World War II breaks out, the arrogant Harrer falls into Allied forces' hands as a prisoner of war. He escapes with a fellow detainee and makes his way to Llaso, Tibet, where he meets the 14-year-old Dalai Lama, whose friendship ultimately transforms his outlook on life.

39 Rhode Island State Trooper Charlie Baileygates has a multiple personality disorder. One personality is crazy and aggressive, while the other is more friendly and laid back. Both of these personalities fall in love with the same woman named Irene after Charlie loses his medication.

40 New York City. Melvin Udall, a cranky, bigoted, obsessive-compulsive writer, finds his life turned upside down when neighboring gay artist Simon is hospitalized and his dog is entrusted to Melvin. In addition, Carol, the only waitress who will tolerate him, must leave work to care for her sick son, making it impossible for Melvin to eat breakfast.

41 Doug is a Secret Service Agent who has just completed his stint in charge protecting Tess Carlisle—the widow of a former U.S. President, and a close personal friend of the current President. He finds that she has requested that he not be rotated but instead return to be her permanent detail. Doug is crushed, and—after returning—wants off her detail as she is very difficult to guard and makes her detail crazy with her whims and demands.

42 The church enlists a team of vampire-hunters to hunt down and destroy a group of vampires searching for an ancient relic that will allow them to exist in sunlight.

43 The plane carrying wealthy Charles Morse crashes down in the Alaskan wilderness. Together with the two other passengers, photographer Robert and assistant Stephen, Charles devises a plan to help them reach civilization. However, his biggest obstacle might not be the elements, or even the Kodiak bear stalking them -- it could be Robert, whom Charles suspects is having an affair with his wife and would not mind seeing him dead.

44 Attractive Manhattanite Allison Jones has it all: a handsome beau, a rent-controlled apartment, and a promising career as a fashion designer. When boyfriend Sam proves unfaithful, Allison strikes out on her own but must use the classifieds to seek out a roommate in order to keep her spacious digs.

45 The police try to arrest expert hostage negotiator Danny Roman, who insists he's being framed for his partner's murder in what he believes is an elaborate conspiracy. Thinking there's evidence in the Internal Affairs offices that might clear him, he takes everyone in the office hostage and demands that another well-known negotiator be brought in to handle the situation and secretly investigate the conspiracy.

46 Publisher Will Randall becomes a werewolf and has to fight to keep his job.

47 Casper is a kind young ghost who peacefully haunts a mansion in Maine. When specialist James Harvey arrives to communicate with Casper and his fellow spirits, he brings along his teenage daughter, Kat. Casper quickly falls in love with Kat, but their budding relationship is complicated not only by his transparent state, but also by his troublemaking apparition uncles and their mischievous antics.

48 A man obsessed with conspiracy theories becomes a target after one of his theories turns out to be true. Unfortunately, in order to save himself, he has to figure out which theory it is.

49 The adventures of a heroic and debonair stalwart mouse named Stuart Little with human qualities, who faces some comic misadventures while searching for his lost bird friend and living with a human family as their child.

50 An agoraphobic psychologist and a female detective must work together to take down a serial killer who copies serial killers from the past.

51 Topper Harley is found to be working as an odd-job-man in a monastery. The CIA want him to lead a rescue mission into Iraq, to rescue the last rescue team, who went in to rescue the last rescue team—who went in to rescue hostages left behind after Desert Storm.

52 A neurotic worker ant in love with a rebellious princess rises to unlikely stardom when he switches places with a soldier. Signing up to march in a parade, he ends up under the command of a bloodthirsty general. But he's actually been enlisted to fight against a termite army.

53 Jubei is a masterless ninja who travels the land alone, lending his services to those with gold—or a worthy cause. His fearsome abilities have served him well, but a plot to overthrow the government threatens to end his wandering ways—and possibly his life.

54 Amy is only 13 years old when her mother is killed. She goes to Canada to live with her father, an eccentric inventor whom she barely knows. Amy is miserable in her new life... until she discovers a nest of goose eggs that were abandoned when a local forest is torn down. The eggs hatch and Amy becomes "Mama Goose". When Winter comes, Amy, and her dad must find a way to lead the birds South...

55 A group of 12 teenagers from various backgrounds enroll at the American Ballet Academy in New York to make it as ballet dancers and each one deals with the problems and stress of training and getting ahead in the world of dance.

56 Miles Logan is a jewel thief who just hit the big time by stealing a huge diamond. However, after two years in jail, he comes to find out that he hid the diamond in a police building that was being built at the time of the robbery. In an attempt to regain his diamond, he poses as an LAPD detective.

57 The secret US abduction of a suspected terrorist from his Middle East homeland leads to a wave of terrorist attacks in New York. An FBI senior agent and his team attempt to locate and decommission the enemy cells, but must also deal with an Army General gone rogue and a female CIA agent of uncertain loyalties.

58 Bones Conway and Jack Kaufman didn't really know what they were in for when they enlisted in the U.S. Army; they just wanted to get a job and make some money. But these new recruits are so hapless, they run the risk of getting kicked out before their military careers even begin. Soon, though, they're sent to the Middle East to fight for their country -- which they manage to do in their own wacky ways.

59 Modern Stone Age family the Flintstones hit the big screen in this live-action version of the classic cartoon. Fred helps Barney adopt a child. Barney sees an opportunity to repay him when Slate Mining tests its employees to find a new executive. But no good deed goes unpunished.

60 Deuce Bigalow is a less than attractive, down on his luck aquarium cleaner. One day he wrecks the house of a gigolo and needs quick money to repair it. The only way he can make it is to become a gigolo himself, taking on an unusual mix of female clients. He encounters a couple of problems, though. He falls in love with one of his unusual clients, and a sleazy police officer is hot on his trail.

61 Several players from different backgrounds try to cope with the pressures of playing football at a major university. Each deals with the pressure differently, some turn to drinking, others to drugs, and some to studying.

62 Coming from a police family, Tom Hardy ends up fighting his uncle after the murder of his father. Tom believes the killer is another cop, and goes on the record with his allegations. Demoted to water-way duty Tom, along with new partner Jo Christman, navigate the three rivers looking for clues and discovering bodies. This time the victims are women Tom knows, he must find the killer to prove his innocence.

63 Trapped near the summit of K2, the world's second-highest mountain, Annie Garrett radios to base camp for help. Brother Peter hears Annie's message and assembles a team to save her and her group before they succumb to K2's unforgiving elements. But, as Annie lays injured in an icy cavern, the rescuers face several terrifying events that could end the rescue attempt -- and their lives.

64 After breaking up with her girlfriend, a nightclub singer, Jane, answers a personal ad from Robin, a real estate agent with AIDS, seeking a cross-country travel partner. On their journey from New York City to Los Angeles, the two stop by Pittsburgh to pick up Robin's friend Holly, who is trying to escape an abusive relationship. With three distinct personalities, the women must overcome their differences to help one another.

65 Veronica is brilliant, gifted and beautiful, but the handsome aristocrat she loves, Marco Venier, cannot marry her because she is penniless and of questionable family. So Veronica's mother, Paola, teaches her to become a courtesan, one of the exotic companions favored by the richest and most powerful Venetian men. Veronica courageously uses her charms to change destiny -- and to give herself a chance at true love.

66 Escaped convict Sam Gillen single-handedly takes on ruthless developers who are determined to evict a widow with two young children.

release\_year age\_certification runtime

1 1972 PG 25

2 1969 G 86

3 1972 G 81

4 1971 25

5 1973 25

6 1987 PG 99

7 1985 R 98

8 1990 R 119

9 1988 R 124

10 1984 R 229

11 1986 PG-13 99

12 1985 R 110

13 1987 PG-13 94

14 1987 PG 107

15 1989 PG-13 93

16 1990 R 101

17 1987 PG-13 95

18 1986 PG 104

19 1990 PG 100

20 1989 PG-13 96

21 1988 100

22 1985 37

23 1982 37

24 1993 R 102

25 1999 R 159

26 1993 R 115

27 1995 PG-13 90

28 1992 R 115

29 1997 R 138

30 1997 R 129

31 1999 R 157

32 2000 PG-13 83

33 1995 PG 136

34 1998 PG-13 124

35 1997 PG-13 105

36 1999 R 123

37 1998 PG-13 104

38 1997 PG-13 136

39 2000 R 112

40 1997 PG-13 139

41 1994 PG-13 98

42 1998 R 108

43 1997 R 117

44 1992 R 107

45 1998 R 140

46 1994 R 125

47 1995 PG 100

48 1997 R 130

49 1999 PG 84

50 1995 R 124

51 1993 PG-13 86

52 1998 PG 80

53 1993 R 94

54 1996 PG 107

55 2000 PG-13 115

56 1999 PG-13 93

57 1998 R 116

58 1994 PG 91

59 1994 PG 91

60 1999 R 88

61 1993 R 113

62 1993 R 101

63 2000 PG-13 126

64 1995 R 115

65 1998 R 111

66 1993 R 94

genres production\_countries seasons

1 ['comedy', 'animation', 'drama', 'family', 'fantasy'] ['US'] NA

2 ['animation', 'comedy', 'family', 'drama'] ['US'] NA

3 ['animation', 'drama', 'family', 'music', 'comedy'] ['US'] NA

4 ['family', 'animation', 'comedy', 'fantasy'] ['US'] NA

5 ['family', 'animation', 'comedy'] [] NA

6 ['fantasy', 'family', 'romance'] ['US'] NA

7 ['drama', 'comedy'] ['US'] NA

8 ['comedy', 'romance'] ['US'] NA

9 ['scifi', 'action', 'drama', 'animation', 'fantasy', 'thriller'] ['JP'] NA

10 ['drama', 'crime', 'european'] ['US', 'IT'] NA

11 ['fantasy', 'romance', 'comedy', 'drama'] ['US'] NA

12 ['drama', 'comedy', 'romance'] ['US'] NA

13 ['comedy', 'romance', 'drama'] ['US'] NA

14 ['comedy', 'romance'] ['US'] NA

15 ['comedy'] ['US'] NA

16 ['drama', 'comedy'] ['US'] NA

17 ['comedy', 'romance'] ['US'] NA

18 ['crime', 'comedy'] ['US'] NA

19 ['scifi', 'comedy'] ['US'] NA

20 ['comedy', 'action'] ['US'] NA

21 ['drama', 'comedy', 'family'] ['US'] NA

22 ['documentation'] ['CA', 'US'] NA

23 ['documentation'] ['US'] NA

24 ['drama', 'comedy'] ['US'] NA

25 ['thriller', 'drama'] ['GB', 'US'] NA

26 ['crime', 'action', 'scifi', 'thriller'] ['US'] NA

27 ['comedy'] ['US'] NA

28 ['comedy', 'drama', 'sport'] ['US'] NA

29 ['thriller', 'crime', 'drama'] ['US'] NA

30 ['scifi', 'thriller', 'action'] ['US'] NA

31 ['drama', 'thriller'] ['US'] NA

32 ['scifi', 'comedy'] ['US'] NA

33 ['drama', 'romance'] ['GB'] NA

34 ['comedy', 'drama', 'fantasy'] ['US'] NA

35 ['romance', 'comedy', 'drama'] ['US'] NA

36 ['thriller', 'crime', 'drama'] ['US'] NA

37 ['fantasy', 'romance', 'comedy', 'drama'] ['US'] NA

38 ['drama', 'history', 'war'] ['US'] NA

39 ['comedy', 'crime'] ['US'] NA

40 ['comedy', 'drama', 'romance'] ['US'] NA

41 ['comedy', 'drama'] ['US'] NA

42 ['fantasy', 'horror', 'action', 'thriller'] ['US'] NA

43 ['drama', 'thriller', 'action', 'european'] ['US'] NA

44 ['thriller', 'drama'] ['US'] NA

45 ['thriller', 'action', 'crime', 'drama'] ['US', 'DE'] NA

46 ['drama', 'horror', 'fantasy', 'documentation', 'romance', 'thriller'] ['US'] NA

47 ['fantasy', 'comedy', 'family'] ['US'] NA

48 ['thriller', 'action'] ['US'] NA

49 ['comedy', 'family', 'fantasy'] ['US', 'DE'] NA

50 ['thriller', 'drama'] ['US'] NA

51 ['comedy', 'action'] ['US'] NA

52 ['comedy', 'family', 'fantasy', 'animation'] ['US'] NA

53 ['fantasy', 'thriller', 'animation', 'action'] ['JP'] NA

54 ['drama', 'family'] ['US'] NA

55 ['drama', 'music', 'romance'] ['US'] NA

56 ['action', 'comedy', 'crime', 'thriller'] ['DE', 'US'] NA

57 ['drama', 'thriller', 'action'] ['US'] NA

58 ['comedy', 'war'] ['US'] NA

59 ['fantasy', 'comedy', 'family'] ['US'] NA

60 ['comedy', 'romance', 'european'] ['US'] NA

61 ['action', 'romance', 'sport', 'drama'] ['US'] NA

62 ['thriller', 'action', 'crime'] ['US'] NA

63 ['thriller', 'action', 'drama'] ['US', 'DE'] NA

64 ['drama', 'comedy'] ['FR', 'US'] NA

65 ['romance', 'drama'] ['US'] NA

66 ['drama', 'thriller', 'action', 'romance'] ['US'] NA

imdb\_id imdb\_score imdb\_votes tmdb\_popularity tmdb\_score

1 tt0213065 7.9 2932 8.834 7.2

2 tt0064107 7.3 5001 8.118 6.9

3 tt0069289 7.4 4665 6.630 6.9

4 tt0284714 7.3 1921 2.979 6.7

5 tt0134628 7.7 632 4.353 7.6

6 tt0093779 8.0 420521 21.284 7.7

7 tt0088847 7.8 385471 23.351 7.8

8 tt0100405 7.1 316085 47.228 7.4

9 tt0094625 8.0 181098 45.959 8.0

10 tt0087843 8.3 342335 21.322 8.4

11 tt0091738 6.4 37182 8.256 6.1

12 tt0090060 6.3 41463 12.614 6.2

13 tt0092718 6.7 36852 13.144 7.0

14 tt0093886 6.6 44752 11.803 6.4

15 tt0097778 5.9 82009 12.165 6.3

16 tt0100395 6.7 17436 6.917 6.6

17 tt0092666 5.9 22521 11.472 6.0

18 tt0092105 6.2 7225 10.521 5.9

19 tt0100666 5.3 3619 3.746 4.8

20 tt0098471 6.2 11774 9.450 6.7

21 tt0096376 5.8 1967 3.122 6.4

22 NA NA 1.621 7.6

23 NA NA 0.947 7.3

24 tt0106677 7.6 179462 12.536 7.4

25 tt0120663 7.5 329940 27.420 7.5

26 tt0106697 6.7 172362 25.700 6.7

27 tt0112508 6.3 141905 13.859 6.2

28 tt0105812 6.8 84776 16.727 6.7

29 tt0119488 8.3 570894 22.527 7.8

30 tt0120201 7.3 288960 22.126 7.0

31 tt0140352 7.8 168179 14.314 7.5

32 tt0242423 5.5 139065 13.871 5.5

33 tt0114388 7.7 113535 16.083 7.5

34 tt0120789 7.5 127913 13.867 7.3

35 tt0119738 6.3 140200 9.515 6.6

36 tt0134273 6.5 131975 13.808 6.4

37 tt0120791 6.2 80376 11.531 6.7

38 tt0120102 7.1 141308 14.442 7.2

39 tt0183505 6.6 234766 29.809 6.6

40 tt0119822 7.7 294505 18.365 7.4

41 tt0109951 6.2 17401 8.006 6.0

42 tt0120877 6.1 58026 14.189 6.3

43 tt0119051 6.9 72945 13.374 6.8

44 tt0105414 6.4 36596 12.376 6.3

45 tt0120768 7.3 140567 12.897 7.1

46 tt0111742 6.2 56071 9.726 6.1

47 tt0112642 6.1 131636 44.963 6.3

48 tt0118883 6.7 99704 15.121 6.6

49 tt0164912 6.0 133037 60.015 6.0

50 tt0112722 6.6 58716 9.901 6.5

51 tt0107144 6.6 89898 23.126 6.5

52 tt0120587 6.6 153493 27.117 6.1

53 tt0107692 7.8 36978 16.354 7.8

54 tt0116329 6.9 25370 12.683 6.8

55 tt0210616 6.6 21509 10.657 6.9

56 tt0181316 6.3 82067 18.940 6.4

57 tt0133952 6.3 72709 11.871 6.3

58 tt0110123 4.9 13705 8.871 5.1

59 tt0109813 4.9 80718 66.316 5.3

60 tt0205000 5.7 74658 36.057 5.9

61 tt0107889 6.4 10564 5.665 6.2

62 tt0108238 5.8 42306 9.654 5.8

63 tt0190865 5.9 61413 16.698 6.0

64 tt0112571 6.4 12990 9.128 6.3

65 tt0118892 7.1 17556 12.192 7.2

66 tt0107711 5.6 23919 22.800 6.2

[ reached 'max' / getOption("max.print") -- omitted 1002 rows ]

>

> # Checking three different MOVIE data frames for 3 different decades.

> HuluMOVIE90 <- (Hulu\_titles %>% filter(release\_year %in% c('1990','1991','1992','1993','1994','1995','1996','1997','1998','1999')))

> unique(HuluMOVIE90$type)

[1] "SHOW" "MOVIE"

> HuluMOVIE00 <- (Hulu\_titles %>% filter(release\_year %in% c('2000','2001','2002','2003','2004','2005','2006','2007','2008','2009')))

> unique(HuluMOVIE00$type)

[1] "SHOW" "MOVIE"

> HuluMOVIE10 <- (Hulu\_titles %>% filter(release\_year %in% c('2010','2011','2012','2013','2014','2015','2016','2017','2018','2019')))

> unique(HuluMOVIE10$type)

[1] "SHOW" "MOVIE"

>

> #How have MOVIE runtimes changed over the decades?

> #1990's MOVIE Runtimes

> MeansRunTimeMOVIE90 <- HuluMOVIE90 %>% group\_by(release\_year) %>% summarize(Mean = mean(runtime))

> MeansRunTimeMOVIE90

# A tibble: 10 × 2

release\_year Mean

<int> <dbl>

1 1990 60.8

2 1991 21.5

3 1992 65.5

4 1993 69.5

5 1994 62.8

6 1995 73.1

7 1996 37.3

8 1997 77.7

9 1998 57.9

10 1999 63.3

> # Checking 1990's OVERALL Means Run Time

> TotalMeansRunTime90 <- HuluMOVIE90 %>% summarize(Mean = mean(runtime))

> TotalMeansRunTime90

Mean

1 62.62879

> #2000's MOVIE Runtimes

> MeansRunTimeMOVIE00 <- HuluMOVIE00 %>% group\_by(release\_year) %>% summarize(Mean = mean(runtime))

> MeansRunTimeMOVIE00

# A tibble: 10 × 2

release\_year Mean

<int> <dbl>

1 2000 58.6

2 2001 47.4

3 2002 62.5

4 2003 62.6

5 2004 52.8

6 2005 55.8

7 2006 46.0

8 2007 53.2

9 2008 52.3

10 2009 52.8

> #2000's Overall Mean Run Time

> TotalMeansRunTime00 <- HuluMOVIE00 %>% summarize(Mean = mean(runtime))

> TotalMeansRunTime00

Mean

1 53.34637

> #2010's MOVIE Runtimes

> MeansRunTimeMOVIE10 <- HuluMOVIE10 %>% group\_by(release\_year) %>% summarize(Mean = mean(runtime))

> MeansRunTimeMOVIE10

# A tibble: 10 × 2

release\_year Mean

<int> <dbl>

1 2010 59.0

2 2011 56.5

3 2012 56.0

4 2013 53.4

5 2014 53.2

6 2015 48.4

7 2016 55.1

8 2017 68.9

9 2018 64.2

10 2019 69.0

> #2010's Overall Means Run Time

> TotalMeansRunTime10 <- HuluMOVIE10 %>% summarize(Mean = mean(runtime))

> TotalMeansRunTime10

Mean

1 60.31113

> nrow(HuluMOVIE90[!is.na(HuluMOVIE90$runtime),])

[1] 132

> nrow(HuluMOVIE10[!is.na(HuluMOVIE10$runtime),])

[1] 1321

> nrow(HuluMOVIE00[!is.na(HuluMOVIE00$runtime),])

[1] 358

>

> #nΣ(Xj – X..)2

> # n: the sample size of group j Σ: a greek symbol that means “sum” Xj: the mean of group j X..: the overall mean

> # sample size of group j(sum)(mean of group j- overall mean)2

> # Performing a Kruskal-Wallis test for data that is non-parametic (in our case uneven sample sizes)?

> nrow(HuluMOVIE[!is.na(HuluMOVIE$runtime),])

[1] 1068

>

> # How have SHOW runtimes changed over the decades?

> # Creating Data Frame for Shows.

> HuluSHOW <- (Hulu\_titles %>% filter(type %in% c('SHOW')))

> write.csv(HuluSHOW,".View(Hulu\_titles)", row.names = FALSE)

> head(HuluSHOW)

id title type

1 ts20475 Saturday Night Live SHOW

2 ts20413 M\*A\*S\*H SHOW

3 ts20005 I Love Lucy SHOW

4 ts20669 Taxi SHOW

5 ts21049 The Mary Tyler Moore Show SHOW

6 ts17013 The Brady Bunch SHOW

description

1 A late-night live television sketch comedy and variety show created by Lorne Michaels. The show's comedy sketches, which parody contemporary culture and politics, are performed by a large and varying cast of repertory and newer cast members. Each episode is hosted by a celebrity guest, who usually delivers an opening monologue and performs in sketches with the cast, and features performances by a musical guest.

2 The 4077th Mobile Army Surgical Hospital is stuck in the middle of the Korean war. With little help from the circumstances they find themselves in, they are forced to make their own fun. Fond of practical jokes and revenge, the doctors, nurses, administrators, and soldiers often find ways of making wartime life bearable.

3 Cuban Bandleader Ricky Ricardo would be happy if his wife Lucy would just be a housewife. Instead she tries constantly to perform at the Tropicana where he works, and make life comically frantic in the apartment building they share with landlords Fred and Ethel Mertz, who also happen to be their best friends.

4 Louie De Palma is a cantankerous, acerbic taxi dispatcher in New York City. He tries to maintain order over a collection of varied and strange characters who drive for him. As he bullies and insults them from the safety of his “cage,” they form a special bond among themselves, becoming friends and supporting each other through the inevitable trials and tribulations of life.

5 30-year-old single Mary Richards moves to Minneapolis to start a new life after a romantic break-up. There she reacquaints with Phyllis who rents her a room, and meets her upstairs neighbor and new best friend Rhoda. Mary unexpectedly lands a job as associate producer at the TV station WJM, where she works alongside her bristly boss, Lou; the comical newswriter, Murray; and the newscast's often-incompetent anchor, Ted.

6 When widower Mike Brady marries a lovely lady widow Carol Ann, their two families become one. These are the misadventures of this new couple, their six children, a dog named Tiger, and quirky housekeeper Alice.

release\_year age\_certification runtime genres production\_countries seasons

1 1975 TV-14 89 ['music', 'comedy'] ['US'] 47

2 1972 TV-PG 26 ['war', 'comedy', 'drama'] ['US'] 11

3 1951 TV-G 30 ['comedy', 'family'] ['US'] 9

4 1978 TV-PG 25 ['drama', 'comedy'] ['US'] 5

5 1970 TV-PG 28 ['comedy'] ['US'] 7

6 1969 TV-G 25 ['comedy', 'family'] ['US'] 5

imdb\_id imdb\_score imdb\_votes tmdb\_popularity tmdb\_score

1 tt0072562 8.0 47910 54.345 6.9

2 tt0068098 8.4 55882 27.308 8.0

3 tt0043208 8.5 25944 17.088 8.1

4 tt0077089 7.7 13379 14.346 7.3

5 tt0065314 8.2 8692 9.290 7.5

6 tt0063878 6.7 14080 15.042 7.0

>

> # Checking three different Shows data frames for 3 different decades.

> HuluSHOW90 <- (Hulu\_titles %>% filter(release\_year %in% c('1990','1991','1992','1993','1994','1995','1996','1997','1998','1999')))

> unique(HuluSHOW90$type)

[1] "SHOW" "MOVIE"

> HuluSHOW00 <- (Hulu\_titles %>% filter(release\_year %in% c('2000','2001','2002','2003','2004','2005','2006','2007','2008','2009')))

> unique(HuluSHOW00$type)

[1] "SHOW" "MOVIE"

> HuluSHOW10 <- (Hulu\_titles %>% filter(release\_year %in% c('2010','2011','2012','2013','2014','2015','2016','2017','2018','2019')))

> unique(HuluSHOW10$type)

[1] "SHOW" "MOVIE"

>

> #How have Shows runtimes changed over the decades?

> #1990's Shows runtimes

> MeansRunTimeSHOW90 <- HuluSHOW90 %>% group\_by(release\_year) %>% summarize(Mean = mean(runtime))

> MeansRunTimeSHOW90

# A tibble: 10 × 2

release\_year Mean

<int> <dbl>

1 1990 60.8

2 1991 21.5

3 1992 65.5

4 1993 69.5

5 1994 62.8

6 1995 73.1

7 1996 37.3

8 1997 77.7

9 1998 57.9

10 1999 63.3

> # Checking 1990's OVERALL Means Run Time

> TotalMeansRunTime90 <- HuluSHOW90 %>% summarize(Mean = mean(runtime))

> TotalMeansRunTime90

Mean

1 62.62879

> #2000's MOVIE Runtimes

> MeansRunShow00 <- HuluSHOW00 %>% group\_by(release\_year) %>% summarize(Mean = mean(runtime))

> MeansRunTimeMOVIE00

# A tibble: 10 × 2

release\_year Mean

<int> <dbl>

1 2000 58.6

2 2001 47.4

3 2002 62.5

4 2003 62.6

5 2004 52.8

6 2005 55.8

7 2006 46.0

8 2007 53.2

9 2008 52.3

10 2009 52.8

> #2000's Overall Mean Run Time

> TotalMeansRunTime00 <- HuluSHOW00 %>% summarize(Mean = mean(runtime))

> TotalMeansRunTime00

Mean

1 53.34637

> #2010's MOVIE Runtimes

> MeansRunTimeSHOW10 <- HuluSHOW10 %>% group\_by(release\_year) %>% summarize(Mean = mean(runtime))

> MeansRunTimeSHOW10

# A tibble: 10 × 2

release\_year Mean

<int> <dbl>

1 2010 59.0

2 2011 56.5

3 2012 56.0

4 2013 53.4

5 2014 53.2

6 2015 48.4

7 2016 55.1

8 2017 68.9

9 2018 64.2

10 2019 69.0

> #2010's Overall Means Run Time

> TotalMeansRunTime10 <- HuluSHOW10 %>% summarize(Mean = mean(runtime))

> TotalMeansRunTime10

Mean

1 60.31113

> nrow(HuluSHOW90[!is.na(HuluSHOW90$runtime),])

[1] 132

> nrow(HuluSHOW10[!is.na(HuluSHOW10$runtime),])

[1] 1321

> nrow(HuluSHOW00[!is.na(HuluSHOW00$runtime),])

[1] 358

> # nΣ(Xj – X..)2

> #n: the sample size of group j Σ: a greek symbol that means “sum” Xj: the mean of group j X..: the overall mean

> #sample size of group j(sum)(mean of group j- overall mean)2

>

> # Perform a Kruskal-Wallis test for data that is non-parametic (in our case uneven sample sizes)?

> nrow(HuluSHOW[!is.na(HuluSHOW$runtime),])

[1] 1330

>

> #Perform a Kruskall-Wallis Test to test for analysis of variance when non-parametic

> #(in our case uneven sample sizes)

> # Kruskall-Wallis Test for variance of runtime of movies by year

> kruskal.test(runtime ~ release\_year, data=HuluSHOW)

Kruskal-Wallis rank sum test

data: runtime by release\_year

Kruskal-Wallis chi-squared = 44.62, df = 49, p-value = 0.6512

> # P-value shows a significant difference in the average show runtime

>

> # Kruskall-Wallis Test for variance of runtime of movies by year

> kruskal.test(runtime ~ release\_year, data = HuluMOVIE)

Kruskal-Wallis rank sum test

data: runtime by release\_year

Kruskal-Wallis chi-squared = 77.027, df = 42, p-value = 0.0007894

> # Since this p-value is greater than 0.05, we can reject the null hypothesis that the median runtime is the same across the years

>

> # How Have IMDB ratings changed for shows over the decades?

> IMDB<-HuluSHOW %>% group\_by(release\_year) %>% summarize(Mean = mean(imdb\_score, na.rm = TRUE))

> IMDB

# A tibble: 50 × 2

release\_year Mean

<int> <dbl>

1 1951 8.5

2 1952 6.8

3 1962 7.2

4 1965 5.7

5 1969 6.7

6 1970 8.05

7 1972 8.25

8 1975 8

9 1978 7.7

10 1981 8.1

# … with 40 more rows

# ℹ Use `print(n = ...)` to see more rows

> mean(HuluSHOW90$imdb\_score, na.rm = TRUE)

[1] 7.008065

> mean(HuluSHOW00$imdb\_score, na.rm = TRUE)

[1] 6.985838

> mean(HuluSHOW10$imdb\_score, na.rm = TRUE)

[1] 6.754386

> kruskal.test(imdb\_score ~ release\_year, data = HuluSHOW)

Kruskal-Wallis rank sum test

data: imdb\_score by release\_year

Kruskal-Wallis chi-squared = 84.72, df = 49, p-value = 0.00116

>

> # How Have IMDB ratings changed for movies over the decades?

> IMDB<-HuluMOVIE %>% group\_by(release\_year) %>% summarize(Mean = mean(imdb\_score, na.rm = TRUE))

> IMDB

# A tibble: 43 × 2

release\_year Mean

<int> <dbl>

1 1969 7.3

2 1971 7.3

3 1972 7.65

4 1973 7.7

5 1982 NaN

6 1984 8.3

7 1985 7.05

8 1986 6.3

9 1987 6.8

10 1988 6.9

# … with 33 more rows

# ℹ Use `print(n = ...)` to see more rows

> mean(HuluMOVIE90$imdb\_score, na.rm = TRUE)

[1] 7.008065

> mean(HuluMOVIE00$imdb\_score, na.rm = TRUE)

[1] 6.985838

> mean(HuluMOVIE10$imdb\_score, na.rm = TRUE)

[1] 6.754386

> kruskal.test(imdb\_score ~ release\_year, data = HuluMOVIE)

Kruskal-Wallis rank sum test

data: imdb\_score by release\_year

Kruskal-Wallis chi-squared = 76.758, df = 41, p-value = 0.0005994

>

> # Lets Compare Hulu IMDB scores to the Average IMDB score for streaming services (Netlfix, Hulu and HBO)

> # Hulu Movie Average IMDB score

> Hulu\_MOVIE\_mean = mean(HuluMOVIE$imdb\_score, na.rm = TRUE)

> Hulu\_MOVIE\_mean

[1] 6.1278

> # Hulu Movie Average IMDB score is 6.1

>

> # Hulu Shows Average IMDB score

> Hulu\_SHOW\_mean = mean(HuluSHOW$imdb\_score, na.rm = TRUE)

> Hulu\_SHOW\_mean

[1] 7.148

> # Show Show Average IMDB score is 7.1

>

> # T-TEST for Movies - Is there a significant difference between the average Hulu Mmvie

> # IMDB score and the overall IMDB score for streaming services?

> t\_obj <- t.test(HuluMOVIE$imdb\_score, mu = 6.2)

> print(t\_obj)

One Sample t-test

data: HuluMOVIE$imdb\_score

t = -2.1131, df = 981, p-value = 0.03484

alternative hypothesis: true mean is not equal to 6.2

95 percent confidence interval:

6.06075 6.19485

sample estimates:

mean of x

6.1278

> # As we can see that the P-value is less than .05. We can see that Hulu movies have a significantly

> # lower IMDB score at 6.2 than the overall average score of 6.4

>

> # T-TEST for Shows - Is there a significant difference between the average Hulu show

> # IMDB score and the overall IMDB score for streaming services?

> t\_obj <- t.test(HuluSHOW$imdb\_score, mu = 7.0)

> print(t\_obj)

One Sample t-test

data: HuluSHOW$imdb\_score

t = 4.6823, df = 1249, p-value = 3.147e-06

alternative hypothesis: true mean is not equal to 7

95 percent confidence interval:

7.085988 7.210012

sample estimates:

mean of x

7.148

> # AS we can see that the P-value is less than .05 so there is NOT a signifcant difference in averages.

> # The Average Hulu score of 7.0 is the same as the overall average of 7.0