

RWorksheet#5_group.Rmd

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IMDB

1. Each group needs to extract the top 50 tv shows in Imdb.com

```
library(rvest)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

```
library(stringr)
library(polite)
library(kableExtra)
```

```
##
## Attaching package: 'kableExtra'

## The following object is masked from 'package:dplyr':
##
##   group_rows
```

```
library(knitr)
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v forcats 1.0.0      v readr 2.1.5
## v ggplot2 3.5.1      v tibble 3.2.1
## v lubridate 1.9.3    v tidyr 1.3.1
## v purrr 1.0.2
```

```
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter()      masks stats::filter()
## x kableExtra::group_rows() masks dplyr::group_rows()
## x readr::guess_encoding() masks rvest::guess_encoding()
## x dplyr::lag()         masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(ggplot2)
library(rmarkdown)
```

```

library(httr)

link = "https://www.imdb.com/chart/toptv/"
page = read_html(link)
session <- bow(link, user_agent = "Educational")
session

## <polite session> https://www.imdb.com/chart/toptv/
##   User-agent: Educational
##   robots.txt: 35 rules are defined for 3 bots
##   Crawl delay: 5 sec
##   The path is scrapable for this user-agent

nam <- page %>% html_nodes(".ipc-title__text") %>% html_text()
name <- nam[!grepl("Top 250 TV Shows|IMDb Charts|Recently viewed|More to explore", nam, ignore.case = T), ]
name

## [1] "1. Breaking Bad"
## [2] "2. Planet Earth II"
## [3] "3. Planet Earth"
## [4] "4. Band of Brothers"
## [5] "5. Chernobyl"
## [6] "6. The Wire"
## [7] "7. Avatar: The Last Airbender"
## [8] "8. Blue Planet II"
## [9] "9. The Sopranos"
## [10] "10. Cosmos: A Spacetime Odyssey"
## [11] "11. Cosmos"
## [12] "12. Our Planet"
## [13] "13. Game of Thrones"
## [14] "14. Bluey"
## [15] "15. The World at War"
## [16] "16. Fullmetal Alchemist: Brotherhood"
## [17] "17. Rick and Morty"
## [18] "18. Life"
## [19] "19. The Last Dance"
## [20] "20. The Twilight Zone"
## [21] "21. The Vietnam War"
## [22] "22. Sherlock"
## [23] "23. Attack on Titan"
## [24] "24. Batman: The Animated Series"
## [25] "25. Arcane"

rank <- str_extract(name, "^\\d+\\.")
rank

## [1] "1." "2." "3." "4." "5." "6." "7." "8." "9." "10." "11." "12."
## [13] "13." "14." "15." "16." "17." "18." "19." "20." "21." "22." "23." "24."
## [25] "25."

title <- str_replace(name, "^\\d+\\. ", "")
title

## [1] " Breaking Bad" " Planet Earth II"
## [3] " Planet Earth" " Band of Brothers"
## [5] " Chernobyl" " The Wire"
## [7] " Avatar: The Last Airbender" " Blue Planet II"

```

```

## [9] " The Sopranos" " Cosmos: A Spacetime Odyssey"
## [11] " Cosmos" " Our Planet"
## [13] " Game of Thrones" " Bluey"
## [15] " The World at War" " Fullmetal Alchemist: Brotherhood"
## [17] " Rick and Morty" " Life"
## [19] " The Last Dance" " The Twilight Zone"
## [21] " The Vietnam War" " Sherlock"
## [23] " Attack on Titan" " Batman: The Animated Series"
## [25] " Arcane"

yea = page %>% html_nodes(".sc-5bc66c50-6.00dsw.cli-title-metadata-item") %>% html_text()
year <- str_extract_all(yea, "\\b\\d{4}(?:-\\d{4})?\\b") %>% unlist()
year

## NULL

rating = page %>% html_nodes(".ipc-rating-star--rating") %>% html_text()
rating

## [1] "9.5" "9.5" "9.4" "9.4" "9.3" "9.3" "9.3" "9.3" "9.2" "9.2" "9.3" "9.2"
## [13] "9.2" "9.3" "9.2" "9.1" "9.1" "9.1" "9.0" "9.0" "9.1" "9.1" "9.1" "9.0"
## [25] "9.0"

episode <- page %>% html_nodes(".sc-5bc66c50-6.00dsw.cli-title-metadata-item") %>%
html_text()
episodes <- str_extract_all(episode, "\\b\\d+ eps\\b") %>% unlist()
episodes

## NULL

vote = page %>% html_nodes(".ipc-rating-star--voteCount") %>% html_text()
vote

## [1] " (2.2M)" " (162K)" " (224K)" " (546K)" " (909K)" " (391K)" " (390K)"
## [8] " (49K)" " (500K)" " (131K)" " (46K)" " (54K)" " (2.4M)" " (34K)"
## [15] " (31K)" " (209K)" " (628K)" " (44K)" " (160K)" " (97K)" " (29K)"
## [22] " (1M)" " (564K)" " (123K)" " (324K)"

urls <- c("https://www.imdb.com/title/tt0903747/?ref=chttvtp_i_1",
"https://www.imdb.com/title/tt5491994/?ref=chttvtp_i_2",
"https://www.imdb.com/title/tt0795176/?ref=chttvtp_i_3",
"https://www.imdb.com/title/tt0185906/?ref=chttvtp_i_4",
"https://www.imdb.com/title/tt7366338/?ref=chttvtp_i_5",
"https://www.imdb.com/title/tt0306414/?ref=chttvtp_i_6",
"https://www.imdb.com/title/tt0417299/?ref=chttvtp_i_7",
"https://www.imdb.com/title/tt6769208/?ref=chttvtp_i_8",
"https://www.imdb.com/title/tt0141842/?ref=chttvtp_i_9",
"https://www.imdb.com/title/tt2395695/?ref=chttvtp_i_10",
"https://www.imdb.com/title/tt0081846/?ref=chttvtp_i_11",
"https://www.imdb.com/title/tt9253866/?ref=chttvtp_i_12",
"https://www.imdb.com/title/tt0944947/?ref=chttvtp_i_13",
"https://www.imdb.com/title/tt7678620/?ref=chttvtp_i_14",
"https://www.imdb.com/title/tt0071075/?ref=chttvtp_i_15",
"https://www.imdb.com/title/tt1355642/?ref=chttvtp_i_16",
"https://www.imdb.com/title/tt2861424/?ref=chttvtp_i_17",
"https://www.imdb.com/title/tt1533395/?ref=chttvtp_i_18",
"https://www.imdb.com/title/tt8420184/?ref=chttvtp_i_19",

```

```

      "https://www.imdb.com/title/tt0052520/?ref_=chtvtp_i_20",
      "https://www.imdb.com/title/tt1877514/?ref_=chtvtp_i_21",
      "https://www.imdb.com/title/tt1475582/?ref_=chtvtp_i_22",
      "https://www.imdb.com/title/tt2560140/?ref_=chtvtp_i_23",
      "https://www.imdb.com/title/tt0103359/?ref_=chtvtp_i_24",
      "https://www.imdb.com/title/tt0386676/?ref_=chtvtp_i_25")

user_reviews <- vector("numeric", length(urls))
critic_reviews <- vector("numeric", length(urls))
popularity <- vector("numeric", length(urls))

for (i in seq_along(urls)) {

  session <- bow(urls[i], user_agent = "Educational")

  webpage <- scrape(session)

  popularity_text <- webpage %>% html_nodes(".sc-39d285cf-1.dxqvqi") %>% html_text()
  popularity[i] <- as.numeric(gsub(",", "", popularity_text[1]))

  reviewz <- webpage %>% html_nodes(".score") %>% html_text()

  if (length(reviewz) >= 2) {

    user_reviews[i] <- ifelse(grepl("K", reviewz[1]),
                             as.numeric(gsub("K", "", reviewz[1])) * 1000,
                             as.numeric(reviewz[1]))
    critic_reviews[i] <- as.numeric(reviewz[2])
  } else {
    user_reviews[i] <- NA
    critic_reviews[i] <- NA
  }
}

```

```
user_reviews
```

```
## [1] 5100 158 111 1000 3500 787 1000 53 966 205 80 245 5900 368 126
## [16] 467 910 12 542 213 175 1000 2300 219 1700
```

```
critic_reviews
```

```
## [1] 175 6 10 34 88 77 57 9 93 12 8 15 368 4 5 16 94 9 28
## [20] 85 13 121 64 25 76
```

```
popularity
```

```
## [1] 20 999 1778 153 146 104 357 4122 31 1571 3645 2401 16 373 2532
## [16] 474 125 3057 1403 337 1739 160 50 463 51
```

```

max_length <- max(length(rank), length(title), length(year), length(rating), length(
rank <- c(rank, rep(NA, max_length - length(rank)))
title <- c(title, rep(NA, max_length - length(title)))
year <- c(year, rep(NA, max_length - length(year)))
rating <- c(rating, rep(NA, max_length - length(rating)))
episodes <- c(episodes, rep(NA, max_length - length(episodes)))

```

```

vote <- c(vote, rep(NA, max_length - length(vote)))
user_reviews <- c(user_reviews, rep(NA, max_length - length(user_reviews)))
critic_reviews <- c(critic_reviews, rep(NA, max_length - length(critic_reviews)))
popularity <- c(popularity, rep(NA, max_length - length(popularity)))
max_length

```

```
## [1] 25
```

```
movies = data.frame(rank, title, year, rating, episodes, vote, user_reviews, critic_reviews, popularity)
```

```

write.csv(movies, "movies.csv")
print(head(movies))

```

```

##   rank      title year rating episodes      vote user_reviews
## 1    1.  Breaking Bad  NA   9.5        NA (2.2M)         5100
## 2    2.  Planet Earth II NA   9.5        NA (162K)          158
## 3    3.   Planet Earth  NA   9.4        NA (224K)           111
## 4    4.  Band of Brothers NA   9.4        NA (546K)         1000
## 5    5.   Chernobyl    NA   9.3        NA (909K)         3500
## 6    6.    The Wire    NA   9.3        NA (391K)           787
##   critic_reviews popularity
## 1              175         20
## 2               6         999
## 3              10        1778
## 4              34         153
## 5              88         146
## 6              77         104

```

```

movies %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")

```

2. From the 50tv shows, select at least 5 tv shows to scrape 20 user reviews

```

r1 <- c("https://www.imdb.com/title/tt0903747/reviews/?ref_=tt_ov_ql_2",
        "https://www.imdb.com/title/tt5491994/reviews/?ref_=tt_ov_ql_2",
        "https://www.imdb.com/title/tt0795176/reviews/?ref_=tt_ov_ql_2",
        "https://www.imdb.com/title/tt0185906/reviews/?ref_=tt_ov_ql_2",
        "https://www.imdb.com/title/tt7366338/reviews/?ref_=tt_ov_ql_2")

```

```

NAME <- vector("list", length(r1))
date_of_review <- vector("list", length(r1))
user_ratings <- vector("list", length(r1))
title_of_review <- vector("list", length(r1))
is_helpful <- vector("list", length(r1))
is_not_helpful <- vector("list", length(r1))
text_review <- vector("list", length(r1))
review_data_frames <- vector("list", length(r1))

```

```

for (i in seq_along(r1)) {
  session <- bow(r1[i], user_agent = "Educational")
  webpage <- scrape(session)

```

```

  namez <- webpage %>% html_nodes(".ipc-link.ipc-link--base") %>% html_text(trim = TRUE) %>% head(40)
  NAME[[i]] <- namez[!grepl("Permalink", namez, ignore.case = TRUE)]

```

rank	title	year	rating	episodes	vote	user_reviews	critic_reviews	popularity
1.	Breaking Bad	NA	9.5	NA	(2.2M)	5100	175	20
2.	Planet Earth II	NA	9.5	NA	(162K)	158	6	999
3.	Planet Earth	NA	9.4	NA	(224K)	111	10	1778
4.	Band of Brothers	NA	9.4	NA	(546K)	1000	34	153
5.	Chernobyl	NA	9.3	NA	(909K)	3500	88	146
6.	The Wire	NA	9.3	NA	(391K)	787	77	104
7.	Avatar: The Last Airbender	NA	9.3	NA	(390K)	1000	57	357
8.	Blue Planet II	NA	9.3	NA	(49K)	53	9	4122
9.	The Sopranos	NA	9.2	NA	(500K)	966	93	31
10.	Cosmos: A Spacetime Odyssey	NA	9.2	NA	(131K)	205	12	1571
11.	Cosmos	NA	9.3	NA	(46K)	80	8	3645
12.	Our Planet	NA	9.2	NA	(54K)	245	15	2401
13.	Game of Thrones	NA	9.2	NA	(2.4M)	5900	368	16
14.	Bluey	NA	9.3	NA	(34K)	368	4	373
15.	The World at War	NA	9.2	NA	(31K)	126	5	2532
16.	Fullmetal Alchemist: Brotherhood	NA	9.1	NA	(209K)	467	16	474
17.	Rick and Morty	NA	9.1	NA	(628K)	910	94	125
18.	Life	NA	9.1	NA	(44K)	12	9	3057
19.	The Last Dance	NA	9.0	NA	(160K)	542	28	1403
20.	The Twilight Zone	NA	9.0	NA	(97K)	213	85	337
21.	The Vietnam War	NA	9.1	NA	(29K)	175	13	1739
22.	Sherlock	NA	9.1	NA	(1M)	1000	121	160
23.	Attack on Titan	NA	9.1	NA	(564K)	2300	64	50
24.	Batman: The Animated Series	NA	9.0	NA	(123K)	219	25	463
25.	Arcane	NA	9.0	NA	(324K)	1700	76	51

```

date_of_review[[i]] <- webpage %>% html_nodes(".ipc-inline-list__item.review-date") %>% html_text(trim = TRUE)

user_ratings[[i]] <- webpage %>% html_nodes(".ipc-rating-star--rating") %>% html_text(trim = TRUE) %>% as.numeric()

title_of <- webpage %>% html_nodes(".ipc-title__text") %>% html_text(trim = TRUE) %>% head(21)
title_of_review[[i]] <- title_of[!grepl("User reviews|More from this title|More to explore|Recently viewed", title_of[i])]

text_review[[i]] <- webpage %>% html_nodes(".ipc-html-content-inner-div") %>% html_text(trim = TRUE) %>% as.character()
}

```

```

BreakingBad <- data.frame(NAME[[1]],
  Date = date_of_review[[1]],
  Rating = user_ratings[[1]],
  Title = title_of_review[[1]],
  stringsAsFactors = FALSE
)
write.csv(BreakingBad, "Breaking Bad reviews.csv")
print(head(BreakingBad))

```

```

##      NAME..1..      Date Rating      Title
## 1      FiRE010 Jul 3, 2021    10      Really Great
## 2    bruhperson Mar 6, 2019    10      It's ok I guess
## 3    KinoKoopakid Jul 29, 2021    10      99.1% pure
## 4    jehuschultz Feb 18, 2020    10      The Best
## 5    Supermanfan-13 Nov 8, 2021    10      Damn near perfect!
## 6 manishsingh-03299 May 30, 2019    10      Those days ain't gonna come back..

```

```

BreakingBad %>%
  kable("latex", booktabs = TRUE) %>%

```

NAME..1..	Date	Rating	Title
FiRE010	Jul 3, 2021	10	Really Great
bruhperson	Mar 6, 2019	10	It's ok I guess
KinoKoopakid	Jul 29, 2021	10	99.1% pure
jehuschultz	Feb 18, 2020	10	The Best
Supermanfan-13	Nov 8, 2021	10	Damn near perfect!
manishsingh-03299	May 30, 2019	10	Those days ain't gonna come back..
Rob1331	Dec 8, 2022	10	Absolutely Brilliant!!
xpinerhd	Nov 15, 2019	10	Best TV show ever made.
dhamushreddy-14919	Jul 17, 2021	10	ABSOLUTE PERFECTION!!!!
TheLittleSongbird	Nov 12, 2017	10	Among the best and most addictive shows there is
dyarutd	Sep 28, 2024	7	My Review For The Best TV Show Ever
reebokroot	Feb 14, 2021	5	mmmmm
alpierce1991	May 18, 2014	10	Easily the most overrated television show in history...
tushv-31482	Dec 8, 2022	10	Once in a life time series
gogoschka-1	Jan 11, 2014	10	If you mix Scarface, Robin Hood and maybe Tyler Durden with enough meth - you'll get a mean cocktail called 'Heisenberg'
FishDrowned	Nov 8, 2021	10	By far the greatest show I've ever watched
joegalgano	Aug 11, 2021	10	in a category all on its own.
agatt-87232	May 19, 2019	10	Since GOT is over, this is Officially the Greatest show ever made
Leofwine_draca	May 4, 2021	10	Every bit as good as you've heard
dristsultana	Jun 23, 2021	10	Masterpiece

```
kable_styling(latex_options = "scale_down")
```

```
TextReview1 <- text_review[[1]]
head(TextReview1, 20)
```

```
## [1] "I have never watched a show that is as consistently genuine and engaging as Breaking Bad. This
## [2] "Re-Watched it 7 times and counting. I guess I liked it."
## [3] "One of the greatest shows ever, the pacing is excellent. The characters are well developed and
## [4] "I cannot stress enough how good this show is. I've watched a lot of TV in my life and this show
## [5] "Breaking Bad is absolutely, without a doubt, one of the greatest tv shows ever created...it's c
## [6] "When you finish the show you'll never be the same..I guarantee you"
## [7] "Breaking Bad is every bit as good as everyone says it is. It's easily one of my favorites show
## [8] "I wanna delete my brain and watch it again like I never knew it."
## [9] "Direction- PERFECT!!Screenplay-PERFECT!!Writing-PERFECT!!Score-PERFECT!!Cinematography-PERFECT
## [10] "'Breaking Bad' is one of the most popular rated shows on IMDb, is one of those rarities where c
## [11] "In 29/9 and same time this Date is Final Episode Day ( Filena ) This is The Best Tv Show I have
## [12] "If i say that it was good , but not excellent , every fan will try to kill me , but it's my op
## [13] "People are STILL talking about Breaking Bad, long after the series finale, and I just wanted t
## [14] "I have never watched any series which depicts emotions so exactly through camera angles, dialog
## [15] "If you are among the few who haven't seen it yet: believe the hype, it really is THAT good. Br
## [16] "Breaking Bad feels like fever dream. A really REALLY good fever dream. The directing is absolu
## [17] "Nothing compares. Nothing comes close.I may currently be on my 20th dose of this show and it's
## [18] "I was waiting to see how GOT ended. It should be the greatest but they failed miserably in the
## [19] "If there is any show deserves a 10/10, it's Breaking Bad, Simply the greatest."
## [20] "I usually don't comment on here but this show is the best I've seen in my life. And I've seen a
```

```
PlanetEarthII <- data.frame(NAME[[2]],
  Date = date_of_review[[2]],
  Rating = user_ratings[[2]],
  Title = title_of_review[[2]],
  stringsAsFactors = FALSE
)
write.csv(PlanetEarthII, "PlanetEarthII reviews.csv")
print(head(PlanetEarthII))
```

```
##      NAME..2..      Date Rating
## 1  arjanhylkema Nov 7, 2016     10
## 2    Wentloog Nov 5, 2016     10
## 3 john-m-madsen Nov 5, 2016     10
```

NAME..2..	Date	Rating	Title
arjanhlykema	Nov 7, 2016	10	>10
Wentloog	Nov 5, 2016	10	At once awe-inspiring and terrifying!
john-m-madsen	Nov 5, 2016	10	Yet another masterpiece from BBC Nature & David Attenborough
thespookybuz	Nov 9, 2016	10	Mesmerizing
pjdickinson	Nov 5, 2016	10	Astounding
dbijis33	Nov 8, 2016	10	Dangerously beautiful
dhanrajjughead	Nov 17, 2016	10	Greatest documentary ever created.
NeilBarnett	Nov 13, 2016	10	Best thing on TV since last Planet Earth
salmanu-27386	Nov 6, 2016	10	Excellent
panagiotiskatsanos	Dec 31, 2016	10	One of the best documentaries I 've ever seen
ianrobo	Nov 19, 2016	10	In times of climate deniers, hope
adamonIMDb	Dec 28, 2016	7	Breathtaking
tinyfordst	May 19, 2019	10	More irritated with IMDb for the bias than with the show
BobFillmore	Sep 29, 2017	10	Should be required viewing in schools
farshidkarimi	Nov 22, 2016	10	What a Beautiful Planet- Bewitching !
TheLittleSongbird	Oct 12, 2017	10	Like the first 'Planet Earth', does for nature and our planet as 'Walking with Dinosaurs' did with the dinosaurs
myerse-165-4350	Dec 4, 2016	10	This masterpiece deserves higher scores
larask-21775	Oct 20, 2018	10	Love it!
fierceagle-40009	Apr 23, 2020	10	Absolutely amazing.
adam-whitmore	Jan 5, 2017	10	Peerless evocation of nature across the globe

```
## 4 thespookybuz Nov 9, 2016 10
## 5 pjdickinson Nov 5, 2016 10
## 6 dbijis33 Nov 8, 2016 10
##
## Title
## 1 >10
## 2 At once awe-inspiring and terrifying!
## 3 Yet another masterpiece from BBC Nature & David Attenborough
## 4 Mesmerizing
## 5 Astounding
## 6 Dangerously beautiful
```

```
PlanetEarthII %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
TextReview2 <- text_review[[2]]
head(TextReview2, 20)
```

```
## [1] "As Planet Earth I was released about ten years ago, a visual improvement could have been expected."
## [2] "I have just finished watching the first episode on BBC 1 and I am amazed to find that Planet Earth I was the best nature documentary ever made."
## [3] "What to say about Planet Earth II which has not already been said about so many other fantastic nature documentaries."
## [4] "The original Planet Earth back in 2006 was an astounding and refreshing series that tore down the walls of nature documentaries."
## [5] "The professionalism of everyone involved in this glorious production is evident in every frame."
## [6] "Hello this is my first written review. Note that I haven't watched the first season (2006) so I can't compare it to the second."
## [7] "By far the greatest and best nature documentaries ever made. Everyone needs to watch this. I have watched it twice."
## [8] "This is without doubt the best thing I have seen on television for years. The photography, narration, and music are all top notch."
## [9] "The opening image of Planet Earth II contained the promise of everything to come. It was spectacular."
## [10] "One of the best documentaries I 've ever seen. Every episode is a new wonderful experience, getting to see the world from a different perspective."
## [11] "Planet Earth 2 was everything you would expect and more. Every scene, every vista shows that humans are a part of nature."
## [12] "I never thought the original 'Planet Earth' could be topped, but 10 years on and Attenborough has done it again."
## [13] "Was Planet Earth 2 good? Absolutely, it was a visual masterpiece with locations that not even the original could match."
## [14] "This is probably the most intimate documentary I have seen of our fellow species on earth. Awesome."
## [15] "This is my first comment and I hope I am not bungling it. I have been watching nature documentaries for years."
## [16] "Absolutely adore the first 'Planet Earth' from 2007, one of the best documentaries ever made and this is no exception."
## [17] "It's a shame I can only give this breathtaking masterpiece 10 out of 10, it really deserves more."
## [18] "Stunning photography, excellent music, and the unique narration Attenborough brings make this a truly exceptional documentary."
## [19] "Let me say the score, the music, the scenery, the animals and all the detail is like nothing you've ever seen."
## [20] "This is not just one of the best wildlife documentaries ever made - superbly filmed using the latest technology."
## [21] "The production quality is off the charts. The cinematography is simply stunning."
## [22] "The documentary is a masterpiece of nature filmmaking. It's a shame I can't give it a higher rating."
## [23] "The documentary is a masterpiece of nature filmmaking. It's a shame I can't give it a higher rating."
## [24] "The documentary is a masterpiece of nature filmmaking. It's a shame I can't give it a higher rating."
## [25] "The documentary is a masterpiece of nature filmmaking. It's a shame I can't give it a higher rating."
```


NAME..3..	Date	Rating	Title
robert-kamer	Feb 8, 2007	10	11 out of 10
jim-1409	Nov 19, 2008	10	A masterpiece of a documentary
ccthemoviemman-1	Jan 4, 2009	10	In A Word: Amazing
cmcoveos	Dec 15, 2006	10	The most amazing achievement in natural history TV has ever given
Loordssm	Sep 1, 2007	10	Simply put, stunning
ultimorn	Aug 27, 2006	10	An amazing trip around our beautiful planet.
bob the moo	Apr 30, 2006	10	A visually impressive and memorable look at the world that we live in
alfeu	Jun 29, 2015	9	Is it real? I mean, actual footage?
Cabrone	Jul 20, 2006	10	Beautiful
berndt65	Jan 28, 2009	10	Are you kidding me people?
planktonrules	Jun 1, 2015	7	It doesn't get any better than this.
dakuchonekobing	Oct 8, 2020	3	Only 4 Eps can touch my soul!
rooprect	Dec 4, 2007	10	Should be called "BBC - Yeah, animals suck"
bs3dc	Jan 15, 2007	10	Brilliant Documentary Series
Nerte	Jul 30, 2008	10	Explanation to those low-rating reviews...
ortz3	Dec 25, 2017	9	Truly Astonishing
solon-stewart	Sep 14, 2009	9	The Greatest Series Ever
grantss	Jan 4, 2023	10	Excellent documentary series
krational-66550	May 31, 2020	10	beauty
bellino-angelo2014	Sep 20, 2020	9	Words fail me to describe such greatness

it is one of the great achievements in any area of culture from this or any other year. Little else show

```
PlanetEarth <- data.frame(NAME[[3]],
  Date = date_of_review[[3]],
  Rating = user_ratings[[3]],
  Title = title_of_review[[3]],
  stringsAsFactors = FALSE
)
write.csv(PlanetEarth, "PlanetEarth reviews.csv")
print(head(PlanetEarth))
```

```
##      NAME..3..      Date Rating
## 1  robert-kamer Feb 8, 2007    10
## 2      jim-1409 Nov 19, 2008    10
## 3 ccthemoviemman-1 Jan 4, 2009    10
## 4      cmcoveos Dec 15, 2006    10
## 5      Loordssm Sep 1, 2007    10
## 6      ultimorn Aug 27, 2006    10
##
##                                     Title
## 1                                     11 out of 10
## 2                                     A masterpiece of a documentary
## 3                                     In A Word: Amazing
## 4 The most amazing achievement in natural history TV has ever given
## 5                                     Simply put, stunning
## 6                                     An amazing trip around our beautiful planet.
```

```
PlanetEarth %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
TextReview3 <- text_review[[3]]
head(TextReview3, 20)
```

```
## [1] "I don't think I can add anything to the previous 10 out of 10 comments, other than that I'd gi
## [2] "The camera work is truly breathtaking. Such amazing wonders captured on film, areas of the plan
## [3] "Thankfully, I caught a couple of these episodes on American television, which led me to this 1
## [4] "The subtitle of the series is not an exaggeration; it has a literal meaning: This is indeed ou
## [5] "I have never, ever given any title a perfect ten. Mainly because I never thought that there wi
## [6] "I have seen many nature documentaries in my life and none have left me in such amazement of ou
## [7] "As the influence of man expands across the globe, fewer and fewer truly untouched wilderness e
## [8] "This is a beautifully shot series looking at nature in all it's natural wonder, showcasing a b
## [9] "I'm just laughing at all these negative comments. I know it's hard for you PETA freaks to belie
## [10] "Yes, I have watched all 11 Episodes. My favourite are Ep 1,3,6 and 10. I love the way the show
## [11] "This is going to be an unpopular review. But if even just one of you find it helpful, then the
## [12] "Planet Earth is a worthy documentary series that looks not just at the animals and plants in re
## [13] "OK, I'm writing this to explain few things to people who wrote their reviews and gave this doc
## [14] "The production value is absolutely amazing and is so informative. You honestly can't believe w
## [15] "Simply put, I have never seen a better series, or film for that matter. After re-watching the c
## [16] "A documentary series on the wildlife found on Earth. Each episode covers a different habitat: c
## [17] "There is nothing beautiful in the world! The shooting is so delicate that every frame can be u
## [18] "I have always been a huge fan of documentaries and nature TV shows and I consider the BBC the g
## [19] "This series is probably one of the best series I have ever watched. This fascinating documenta
## [20] "This series is incredible. It took 5 years to shoot the footage, and it really shows that they
```

```
BondOfBrothers <- data.frame(NAME[[4]],
  Date = date_of_review[[4]],
  Rating = user_ratings[[4]],
  Title = title_of_review[[4]],
  stringsAsFactors = FALSE
)
write.csv(BondOfBrothers, "BondOfBrothers reviews.csv")
print(head(BondOfBrothers))
```

```
##      NAME..4..      Date Rating
## 1      Rob1331 Sep 27, 2022     10
## 2 sanderson777 Oct 14, 2001     10
## 3 wildcatt268 Jan 18, 2002     10
## 4      arjay24 Apr 18, 2004     10
## 5      rbverhoef Feb 13, 2003    10
## 6 yodaschoda Jan 23, 2005     10
##
##                                Title
## 1                                Incredible!!
## 2      Possibly the finest 10 hours ever created
## 3      One of the best war movies/series ever
## 4                                Realistic
## 5                                Excellent
## 6 One of, if not the best, mini series' ever made
```

```
BondOfBrothers %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
TextReview4 <- text_review[[4]]
head(TextReview4, 20)
```

```
## [1] "Band of Brothers absolutely one of the best miniseries of all-time...period. Not only that but
## [2] "Band of Brothers is the best Movie/Mega Mini series that has ever been made. It has all the pr
## [3] "I have read virtually all of Ambrose's WWII books, and this mini-series faithfully follows one
## [4] "I am an 80 year old combat veteran (88th Inf. Div. Italy).I watched BOB on the History Channel
```

NAME..4..	Date	Rating	Title
Rob1331	Sep 27, 2022	10	Incredible!!
sanderson777	Oct 14, 2001	10	Possibly the finest 10 hours ever created
wildcatt268	Jan 18, 2002	10	One of the best war movies/series ever
arjay24	Apr 18, 2004	10	Realistic
rbverhoef	Feb 13, 2003	10	Excellent
yodaschoda	Jan 23, 2005	10	One of, if not the best, mini series' ever made
philip_vanderveken	Sep 16, 2004	10	This series is so unbelievably realistic, so authentic.
Supermanfan-13	May 6, 2022	10	One of the best mini-series ever created!
thiagoutp	Nov 4, 2019	10	Probably the best ever
bsmith5552	Nov 5, 2001	10	Realistic WWII Drama With Warts Included
faded_english_monkey	Aug 25, 2004	10	war, no frills
planktonrules	May 30, 2015	7	You can't beat this....
stilonkostrzyn	Apr 10, 2021	5	Overrated??
faded_Glory	May 2, 2006	10	Not very realistic at all
jazmodo	Jun 3, 2019	10	Without Doubt, the Best Mini-Series Ever Recorded
kait2007	Jan 26, 2005	10	Great Miniseries
mickman91-1	May 3, 2022	10	A series like this won't be made again (see below), so treasure it
kipmcmillan	Oct 24, 2018	9	Share With Your Children
erwan_ticheler	Dec 7, 2002	10	Best Mini series ever
grahamsj3	Nov 25, 2002	10	A-1, TOPS, the BOMB what else can I say?

```
## [5] "This week I saw three things based on WW-II novels. The first was 'The Pianist' about the Wars
## [6] "Band of Brothers finds us following the exploits of Easy Company throughout their campaign in I
## [7] "There aren't much TV-series which have left such an impression on me as Band of Brothers did. I
## [8] "Band of Brothers absolutely one of the best miniseries of all-time...period. Not only that but
## [9] "Band of Brothers shows the world the ugly truth of World War II.As it was a TV series, sometime
## [10] "\"Band of Brothers\" in a word is awesome. I couldn't wait to see each episode. Co-Executive P
## [11] "I absolutely love this miniseries.As a keen amateur historian, I got sick and tired of books ar
## [12] "\"Band of Brothers\" is a nearly 12 hour long show about the experiences of a group of soldier
## [13] "I understand why ppl rate it so high, but imo this show is aimed mostly to american audience to
## [14] "Lots of people applaud this series for its realism, but I can't really agree. I think there is
## [15] "As near to perfection as a TV Series can be, I cannot put into words the gravity & importance o
## [16] "I was a little hesitant to watch this miniseries because i'm not too fond of war movies, but th
## [17] "After 20 years it remains rightfully one of the highest rated things on IMDB. This is because
## [18] "This is an incredibly poignant and important show that everyone should watch once. It's so rea
## [19] "Judging by other comments, it seems that this miniseries struck a chord with many viewers. I a
## [20] "This is the true story of Easy Company, 506th Parachute Infantry Regiment, 101st Airborne Divi
```

```
Chernobyl <- data.frame(NAME[[5]],
  Date = date_of_review[[5]],
  Rating = user_ratings[[5]],
  Title = title_of_review[[5]],
  stringsAsFactors = FALSE
)
write.csv(Chernobyl, "Chernobyl reviews.csv")
print(head(Chernobyl))
```

```
##      NAME..5..      Date Rating      Title
## 1 curiosityonmars May 23, 2019    10      They got it right
## 2      stelmakh May 10, 2019    10      Goosebumps and tears
## 3   natashapekar May 9, 2019    10      I highly recommend this film!
## 4      m-porpaczi May 14, 2019    10      No hero wakes up wanting to die
## 5      Lladerat May 7, 2019    10      So far looks excellent
```

NAME..5..	Date	Rating	Title
curiosityonmars	May 23, 2019	10	They got it right
stelmakh	May 10, 2019	10	Goosebumps and tears
natashapekar	May 9, 2019	10	I highly recommend this film!
m-porpaczi	May 14, 2019	10	No hero wakes up wanting to die
Lladerat	May 7, 2019	10	So far looks excellent
jfirebug	May 20, 2019	10	Incredible
thegldt	May 6, 2019	10	Bleak, Unsettling, Haunting All Throughout
alexander-phoenix	May 13, 2019	10	Unbelievable
wmeduardowm	May 6, 2019	10	HBO did it again!
Leofwine_draca	Nov 27, 2019	10	Exemplary
Jamie_Seaton	May 23, 2019	1	Amazing!
piter554	Jun 29, 2019	8	How cost the lie?
frimark	May 20, 2019	10	Emotionally drained...
krzysztof-18241	May 30, 2019	10	Just watch it (!)
ahmetkozan	Jun 7, 2019	9	Now you look like the minister of coal!
Rob1331	Sep 27, 2022	10	Must Watch!
stephenpdodds	May 6, 2019	9	Cracking.
Supermanfan-13	Jul 10, 2022	9	Brilliant!
emholberg	May 26, 2019	10	It is hard to overestimate the importance of this show.
josephwhitton	May 15, 2019	7	Amazing

```
## 6          jfirebug May 20, 2019      10          Incredible
```

```
Chernobyl %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
TextReview5 <- text_review[[5]]
head(TextReview5, 20)
```

```
## [1] "I was born in Pripyat. I was four years old when the accident happened. Watching it is more hor
## [2] "A Belarusian here, born in 1983. Parents were scientists, knew everything on the 27th. Chernobyl
## [3] "Hi. I'm from Kiev, Ukraine. I was born in 1983 and I was 2 and a half years when the Chernobyl
## [4] "As my mother tells it, the weather was quite nice, the sky was clear without any sign of clouds
## [5] "Im ukrainian, born in 1988 and still live here. I want to give the authors of this show a big t
## [6] "My husband grew up near Kyiv and his father drove one of the buses that evacuated the civilians
## [7] "'Chernobyl' is scarier than most horror movies in that it is a dramatization of actual, real-l
## [8] "I'm Russian. Amazing work! Newer, you hear this, never ever before western cinematography made
## [9] "The first episode somehow surpassed my expectations for what this TV Show would do with the big
## [10] "Quite possibly the most intense and powerful experience in television history! Very well could
## [11] "This film is a beautifully made anti-Soviet and anti-Russian propaganda. How cost the lie? You
## [12] "I'm Russian, my father went to Chernobyl as a physicist quite a while after the explosion (a f
## [13] "30th of April, 1986, was a cloudless, sunny day in southern Poland. I was 13 years old, and we
## [14] "In terms of series expression, it moves on in a style that we can call \"documentary-drama\".
## [15] "Chernobyl is about the brave men and women who had to navigate the ridiculously scary nuclear a
## [16] "Grim is an understatement.This is one of the very few shows that I'd bless with a ten star.It
## [17] "I can not overstate just how good Chernobyl really is! It's one of the best mini-series ever m
## [18] "I was born in Ukraine, 1971. Parents - Soviet \"intelligentsia\": mother was a high school tea
## [19] "I work as an apprentice within the nuclear industry and I have to say without a doubt that thi
## [20] "As a person who comes from a country that was ruled by the Communism, I have a good idea of how
```

3. Create a time series graph for the tv shows released by year.

```

movies$year <- as.numeric(movies$year)
year_counts <- movies %>%
  filter(!is.na(year)) %>%
  count(year)

ggplot(year_counts, aes(x = year, y = n)) +
  geom_line(color = "blue") +
  geom_point(color = "red") +
  labs(title = "Number of TV Shows Released by Year",
       x = "Year",
       y = "Number of TV Shows") +
  theme_minimal()

```

Number of TV Shows Released by Year

Number of TV Shows

Year

```

most_releases <- year_counts[which.max(year_counts$n), ]
print(most_releases)

```

```

## [1] year n
## <0 rows> (or 0-length row.names)

```

4. Select 5 categories from Amazon and select 30 products from each category.

```

urls <- c('https://www.amazon.com/s?k=skin+care&crd=3FODLJK4URUE9&sprefix=skin%2Caps%2C510&ref=nb_sb_s

nameofproduct <- vector("list", length(urls))
price <- vector("list", length(urls))
description <- vector("list", length(urls))
Ratings <- vector("list", length(urls))
Reviews <- vector("list", length(urls))

```

```

df <- list()

for (i in seq_along(urls)) {
  session <- bow(urls[i], user_agent = "Educational")
  webpage <- scrape(session)

  nameofproduct[[i]] <- webpage %>%
    html_nodes('.a-size-base-plus.a-color-base') %>%
    html_text() %>%
    head(30)

  price[[i]] <- webpage %>%
    html_nodes('.a-price-whole') %>%
    html_text() %>%
    head(30)

  description[[i]] <- webpage %>%
    html_nodes('.a-size-mini.a-spacing-none.a-color-base s-line-clamp-3') %>%
    html_text() %>%
    head(30)

  Ratings[[i]] <- webpage %>%
    html_nodes('.a-icon.a-icon-star-small.a-star-small-4-5') %>%
    html_text() %>%
    head(30)

  Reviews[[i]] <- webpage %>%
    html_nodes('.a-size-base-plus.a-color-base') %>%
    html_text() %>%
    head(30)
}

```

5. Extract the price, description, ratings and reviews of each product.

```

skincare <- data.frame(nameofproduct[[1]],
  Price = price[[1]],
  Ratings = Ratings[[1]],
  stringsAsFactors = FALSE
)

head(skincare, 50)

```

```

##
## 1
## 2
## 3
## 4
## 5
## 6
## 7
## 8
## 9
## 10
## 11
## 12
## 13

```

Snail Mucin 96% Power Face Serum 3.38 fl

Bio-Collage

SKIN Hydrated Ever After Skincare

COSRX Snail Mucin 96% Power Face Serum 3.38 fl

Medicube Collagen Overnight Wrapping Peel Off Facial Mask Pack - Elasticity & Hydration

COSRX Snail Mucin 92% Moisturizer, Daily Repair Face Gel Cream Tube Type for Dry, Sensitive Sk

Le

Colossal Foot rasp Foot File and Callus Remover. Best Foot Care Pedicure Metal

```

## 14                               Age-R Booster Pro | 6-in-1 Real Glass Glow Device | Looking Glass Skin
## 15
## 16                               Moisturizing Cream | Body and Face Moisturizer for Dry Skin | Body Cream with Hyal
## 17                               Pimple Patches for Face, Hydrocolloid Acne Patches, Cute Star Zit Covers, (
## 18
## 19                               Toleriane Double Repair Face Moisturizer | Da
## 20
## 21                               Squeeze Me Lip Balm, Moisturiz
## 22
## 23                               Collagen Jelly Cream- Niacinamide & Freeze-Dried Hydrolyzed Collagen - Boosts skin's l
## 24
## 25                               Heartleaf Pore Control Cleans
## 26
## 27                               Snail Mucin 92% Face Moisturizer, 3.52
## 28 Under Eye Patches, 40 Pairs Eye Mask for Dark Circles, Puffy Eyes, Undereye Bags,Wrinkles, Eye Mas
## 29
## 30                               Facial Spr
##      Price           Ratings
## 1      12. 4.6 out of 5 stars
## 2      12. 4.3 out of 5 stars
## 3      20. 4.5 out of 5 stars
## 4      12. 4.6 out of 5 stars
## 5      12. 4.6 out of 5 stars
## 6       9. 4.7 out of 5 stars
## 7      79. 4.7 out of 5 stars
## 8       9. 4.4 out of 5 stars
## 9     150. 4.6 out of 5 stars
## 10     17. 4.5 out of 5 stars
## 11      5. 4.3 out of 5 stars
## 12     23. 4.3 out of 5 stars
## 13      4. 4.5 out of 5 stars
## 14     12. 4.5 out of 5 stars
## 15     13. 4.5 out of 5 stars
## 16     12. 4.7 out of 5 stars
## 17      8. 4.6 out of 5 stars
## 18      5. 4.6 out of 5 stars
## 19      6. 4.5 out of 5 stars
## 20      8. 4.3 out of 5 stars
## 21     57. 4.3 out of 5 stars
## 22      7. 4.7 out of 5 stars
## 23      5. 4.6 out of 5 stars
## 24     11. 4.7 out of 5 stars
## 25     21. 4.7 out of 5 stars
## 26      8. 4.3 out of 5 stars
## 27     15. 4.5 out of 5 stars
## 28     15. 4.4 out of 5 stars
## 29     17. 4.6 out of 5 stars
## 30     14. 4.6 out of 5 stars

```

```

skincare %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")

```

```

perfume <- data.frame(nameofproduct[[2]],
                      Price = price[[2]],

```

nameofproduct...1..	Price	Ratings
Amazon's Choice: Overall Pick	12.	4.6 out of 5 stars
COSRX	12.	4.3 out of 5 stars
Snail Mucin 96% Power Face Serum 3.38 fl oz 100ml, Hydrating Serum for Face, Self Care, Glow Skin under Makeup, Korean Skin Care, Korean Beauty	20.	4.5 out of 5 stars
BIODANCE	12.	4.6 out of 5 stars
Bio-Collagen Real Deep Mask, Hydrating Overnight Hydrogel Mask, Pore Minimizing, Elasticity Improvement, 34g x4ea	12.	4.6 out of 5 stars
e.l.f.	9.	4.7 out of 5 stars
SKIN Hydrated Ever After Skincare Mini Kit, Cleanser, Makeup Remover, Moisturiser & Eye Cream For Hydrating Skin, Airplane-Friendly Sizes	79.	4.7 out of 5 stars
COSRX Snail Mucin 96% Power Face Serum 3.38 fl oz 100ml, Hydrating Serum for Face, Self Care, Glow Skin under Makeup, Korean Skin Care, Korean Beauty	9.	4.4 out of 5 stars
Medicube Collagen Overnight Wrapping Peel Off Facial Mask Pack - Elasticity & Hydration Care, Reduces Sagging & Dullness - Hydrolyzed Collagen For Glowing Skin - Korean Skin Care, 2.53 fl.oz	150.	4.6 out of 5 stars
COSRX Snail Mucin 92% Moisturizer, Daily Repair Face Gel Cream Tube Type for Dry, Sensitive Skin, Not Tested on Animals, No Parabens, No Sulfates, No Phthalates, Korean Skin Care (7.05Fl Oz / 200g)	17.	4.5 out of 5 stars
Led Face Mask Light Therapy, 7-1 Colors LED Facial Skin Care Mask, Red Light Therapy Mask for Face, White	5.	4.3 out of 5 stars
Colossal Foot rasp Foot File and Callus Remover. Best Foot Care Pedicure Metal Surface Tool to Remove Hard Skin. Can be Used on Both Wet and Dry feet, High Grade Stainless Steel File	23.	4.3 out of 5 stars
Medicube	4.	4.5 out of 5 stars
Age-R Booster Pro 6-in-1 Real Glass Glow Device Looking Glass Skin with Enhanced Absorption, Radiance, Elasticity,Pore Care LED Anti-Wrinkle Device Korean Skin Care	12.	4.5 out of 5 stars
CeraVe	13.	4.5 out of 5 stars
Moisturizing Cream Body and Face Moisturizer for Dry Skin Body Cream with Hyaluronic Acid and Ceramides Daily Moisturizer Oil-Free Fragrance Free Non-Comedogenic 19 Ounce	12.	4.7 out of 5 stars
Pimple Patches for Face, Hydrocolloid Acne Patches, Cute Star Zit Covers, Colorful Spot Stickers with Tea Tree, Salicylic Acid & Cica Oil 3 Sizes (10mm, 12mm & 14mm) 200 Count	8.	4.6 out of 5 stars
La Roche-Posay	5.	4.6 out of 5 stars
Toleriane Double Repair Face Moisturizer Daily Moisturizer Face Cream with Ceramide and Niacinamide for All Skin Types Oil Free Fragrance Free	6.	4.5 out of 5 stars
e.l.f.	8.	4.3 out of 5 stars
Squeeze Me Lip Balm, Moisturizing Lip Balm For A Sheer Tint Of Color, Infused With Hyaluronic Acid, Vegan & Cruelty-free, Strawberry	57.	4.3 out of 5 stars
Medicube	7.	4.7 out of 5 stars
Collagen Jelly Cream- Niacinamide & Freeze-Dried Hydrolyzed Collagen - Boosts skin's barrier hydration and gives 24h Glow & Lifted Look - No artificial color, Korean skincare (3.71 fl.oz.)	5.	4.6 out of 5 stars
ANUA	11.	4.7 out of 5 stars
Heartleaf Pore Control Cleansing Oil, Oil Cleanser for Face, Makeup Blackhead Remover, Korean Skin Care 6.76 fl oz(200ml) (original)	21.	4.7 out of 5 stars
COSRX	8.	4.3 out of 5 stars
Snail Mucin 92% Face Moisturizer, 3.52 Oz, Lightweight Moisturizing Cream for Soft, Glowly Skin, Korean Skin Care, Korean Moisturizer Face Cream	15.	4.5 out of 5 stars
Under Eye Patches, 40 Pairs Eye Mask for Dark Circles, Puffy Eyes, Undereye Bags,Wrinkles,Eye Mask Patches with 24K Gold, Hyaluronic Acid,Rose & Aloe Vera, Eye Treatment Skin Care for Men & Women Gift	15.	4.4 out of 5 stars
Mario Badescu	17.	4.6 out of 5 stars
Facial Spray with Aloe, Herbs and Rose Water for All Skin Types, Face Mist that Hydrates, Rejuvenates & Clarifies	14.	4.6 out of 5 stars

```

Ratings = Ratings[[2]],
stringsAsFactors = FALSE
)

head(perfume, 30)

##
## 1
## 2 Swiss Arabian Layali Rouge - Luxury Arabian Perfume Oil from Dubai - Long Lasting Arabian Perfume
## 3
## 4
## 5
## 6
## 7 KHADLAJ PERFUMES Hareem A
## 8 Ed Hardy Women's Perf
## 9
## 10
## 11
## 12 Victoria's Secret Bombshell Mini Fragrance Mist, Notes of Purple Passion Fruit, Shangri-La Peon
## 13 Vera Wang Eau de Parfum for Women - Delicate, Floral Scent - Notes o
## 14
## 15 Vera Wang P
## 16 Ariana Grande Cloud Eau de Parfum - Warm Gourmand Fragrance for Women -
Women's Perfume with Notes of Lavender, Coconut, Vanilla & Pear
## 17 Billie Eilish Eau de Parfum Perfume for Women, Notes of Sugared Petals, Vanilla & Musl
## 18
## 19 Sol de J
## 20 Latt
## 21 Lucky You Perfume for Women, Eau De Toilette
## 22
## 23 Bodycology Lon
## 24
## 25
## 26
## 27
## 28 Victoria's Secret Mini Eau de Parfum Discovery Gift Set: M
## 29
## 30 Victoria's Secret Fragrance Mist Collection 4

```



```
##      Price      Ratings
## 1    22. 4.4 out of 5 stars
## 2    22. 4.6 out of 5 stars
## 3    10. 4.6 out of 5 stars
## 4    78. 4.3 out of 5 stars
## 5    51. 4.7 out of 5 stars
## 6    16. 4.6 out of 5 stars
## 7    18. 4.6 out of 5 stars
## 8   117. 4.5 out of 5 stars
## 9    87. 4.4 out of 5 stars
## 10   13. 4.7 out of 5 stars
## 11   11. 4.5 out of 5 stars
## 12   26. 4.6 out of 5 stars
## 13   45. 4.6 out of 5 stars
## 14   22. 4.5 out of 5 stars
## 15   48. 4.5 out of 5 stars
## 16   47. 4.5 out of 5 stars
## 17   53. 4.5 out of 5 stars
## 18   25. 4.7 out of 5 stars
## 19   28. 4.3 out of 5 stars
## 20   15. 4.6 out of 5 stars
## 21   55. 4.4 out of 5 stars
## 22   11. 4.5 out of 5 stars
## 23   18. 4.5 out of 5 stars
## 24   24. 4.3 out of 5 stars
## 25   20. 4.6 out of 5 stars
## 26   18. 4.6 out of 5 stars
## 27   55. 4.7 out of 5 stars
## 28   19. 4.6 out of 5 stars
## 29   26. 4.4 out of 5 stars
## 30    3. 4.7 out of 5 stars
```

```
perfume %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
bags <- data.frame(nameofproduct[[3]],
                    Price = price[[3]],
                    Ratings = Ratings[[3]],
                    stringsAsFactors = FALSE
)

head(bags, 30)
```

```
##
## 1
## 2
## 3
## 4
## 5
## 6
## 7
## 8
## 9
## 10
## 11
```

Tote Bag for Women, Lightweight Puffy Tote Bag with Compartmen

Color-Block Crossbody Bags for Women Leather Cross Body Purs

Crossbody Bags for Women Trendy Vegan Leather Hobo

3PCS Purses and Handbags for Women Tote Pu

nameofproduct..2..	Price	Ratings
Amazon's Choice: Overall Pick	22.	4.4 out of 5 stars
Swiss Arabian Layali Rouge - Luxury Arabian Perfume Oil from Dubai - Long Lasting Arabian Perfume for Women - Exotic, Fruity, Floral, Alcohol Free EDP - 0.5 oz	22.	4.6 out of 5 stars
Lattafa Yara for Women Eau de Parfum Spray, 3.40 Ounce / 100 ml	10.	4.6 out of 5 stars
Al-Rehab Choco Musk Eau de Parfum Spray for Women, 1.7 Ounce	78.	4.3 out of 5 stars
Versace Bright Crystal by Versace for Women 6.7 oz Eau de Toilette Spray	51.	4.7 out of 5 stars
Marc Jacobs Perfect for Women Eau de Parfum Spray, 1.6 Ounce	16.	4.6 out of 5 stars
KHADLAJ PERFUMES Hareem Al Sultan Gold Concentrated Perfume Oil for Unisex, 1.18 Ounce	18.	4.6 out of 5 stars
Ed Hardy Women's Perfume Fragrance by Christian Audigier, Eau De Parfum, 3.4 Fl Oz	117.	4.5 out of 5 stars
Valentino Valentino Donna Born In Roma EDP Spray Women 3.4 oz	87.	4.4 out of 5 stars
Marc Jacobs Perfect Eau de Parfum Spray for Women, 3.3 Ounce	13.	4.7 out of 5 stars
Victoria's Secret Bare Vanilla Body Mist, Body Spray for Women (8.4 oz)	11.	4.5 out of 5 stars
Victoria's Secret Bombshell Mini Fragrance Mist, Notes of Purple Passion Fruit, Shangri-La Peony & Vanilla Orchid, Travel Size Body Spray for Women (2.5 oz)	26.	4.6 out of 5 stars
Vera Wang Eau de Parfum for Women - Delicate, Floral Scent - Notes of Iris, Lillies, & Sandalwood - Feminine & Subtle - 3.4 Fl Oz	45.	4.6 out of 5 stars
Daisy By Marc Jacobs for Women Eau De Toilette Spray, 1.7 Fl Oz	22.	4.5 out of 5 stars
Vera Wang Princess Eau de Toilette Spray for Women, Vanilla, 3.4 Fl Ounce	48.	4.5 out of 5 stars
Ariana Grande Cloud Eau de Parfum - Warm Gourmand Fragrance for Women - Women's Perfume with Notes of Lavender, Coconut, Vanilla & Pear	47.	4.5 out of 5 stars
Billie Eilish Eau de Parfum Perfume for Women, Notes of Sugared Petals, Vanilla & Musk, Amber Gourmand + Woody Floral Fragrance, Long Lasting Scent	53.	4.5 out of 5 stars
Versace Crystal Noir by Versace for Women - 3 Fl Oz EDT Spray	25.	4.7 out of 5 stars
Sol de Janeiro Hair & Body Fragrance Mist Travel Size 90mL/3.0 fl oz.	28.	4.3 out of 5 stars
Lattafa Perfumes Khamrah for Unisex Eau de Parfum Spray, 3.4 Ounce	15.	4.6 out of 5 stars
Lucky You Perfume for Women, Eau De Toilette Day or Night Spray with Fresh Flower Citrus Scent, 3.4 fl oz	55.	4.4 out of 5 stars
Floral Eau De Parfum	11.	4.5 out of 5 stars
Bodycology Long-Lasting Fragrance Body Mist, Strawberry Cheesecake, 8 fl oz	18.	4.5 out of 5 stars
Victoria's Secret Tease Fine Fragrance 8.4oz Mist	24.	4.3 out of 5 stars
Lattafa Perfumes Asad for Unisex Eau de Parfum Spray, 3.4 Ounce	20.	4.6 out of 5 stars
Lattafa Yara Moi Eau de Parfum Spray for Women, 3.4 Ounce	18.	4.6 out of 5 stars
Victoria's Secret Bombshell Fine Fragrance 8.4oz Mist	55.	4.7 out of 5 stars
Victoria's Secret Mini Eau de Parfum Discovery Gift Set: Bombshell, Bombshell Magic, Tease, Bare, Very Sexy, & Heavenly	19.	4.6 out of 5 stars
Lattafa Rave Now Eau de Parfum Spray for Women, 3.4 Ounce	26.	4.4 out of 5 stars
Victoria's Secret Fragrance Mist Collection 4 Piece Mini Mist Gift Set, Assorted Scents, Gift Set for Women	3.	4.7 out of 5 stars

12

13

14

15

Women's Jet Set Item Crossbody

16

17

18

19

Purses and Handbags for Women, Tote Shoulder Bag Satchel

20

21

Small Sling Backpack Crossbody Sling Bag, Chest Bag Daypack Fanny

22

23

24

25 LOVEV00K Laptop Bag for Women 15.6 Inch Laptop Tote Work Bag Professional Leather Computer Briefc

26

27

Tote Bag for Women, Foldable Tote Bag With Zipper Large

28

29

Tote Bag

30

Price Ratings

1 26. 4.6 out of 5 stars

2 23. 4.6 out of 5 stars

3 26. 4.5 out of 5 stars

4 57. 4.5 out of 5 stars

5 26. 4.7 out of 5 stars

6 23. 4.7 out of 5 stars

7 27. 4.6 out of 5 stars

8 39. 4.6 out of 5 stars

9 66. 4.3 out of 5 stars

10 67. 4.6 out of 5 stars

11 67. 4.7 out of 5 stars

12 21. 4.5 out of 5 stars

13 8. 4.7 out of 5 stars

14 19. 4.3 out of 5 stars

nameofproduct..3..	Price	Ratings
Amazon's Choice: Overall Pick	26.	4.6 out of 5 stars
Michael Kors	23.	4.6 out of 5 stars
(Crossbody	26.	4.5 out of 5 stars
BAGSMART	57.	4.5 out of 5 stars
Tote Bag for Women, Lightweight Puffy Tote Bag with Compartments, Quilted Shoulder Bag Handbag for Travel, Work	26.	4.7 out of 5 stars
TOP BAND	23.	4.7 out of 5 stars
Color-Block Crossbody Bags for Women Leather Cross Body Purses Cute Designer Handbags Shoulder Bag Medium Size	27.	4.6 out of 5 stars
BOSTANTEN	39.	4.6 out of 5 stars
Crossbody Bags for Women Trendy Vegan Leather Hobo Purses Shoulder Handbags With Wide Shoulder Strap	66.	4.3 out of 5 stars
Montana West	67.	4.6 out of 5 stars
3PCS Purses and Handbags for Women Tote Purse and Wallet Set Shoulder Satchel Bag for Women	67.	4.7 out of 5 stars
Michael Kors	21.	4.5 out of 5 stars
Jet Set Travel Medium Logo Crossbody Bag	8.	4.7 out of 5 stars
Michael Kors	19.	4.3 out of 5 stars
Women's Jet Set Item Crossbody Bag in Black with Silver hardware (Black/Silver)	31.	4.6 out of 5 stars
Michael Kors	18.	4.4 out of 5 stars
East West Chain, Brown	28.	4.7 out of 5 stars
LOVEVOOK	52.	4.3 out of 5 stars
Purses and Handbags for Women, Tote Shoulder Bag Satchel Black Purse and PU Leather Top Handle for ladies	20.	4.4 out of 5 stars
Banelu	19.	4.7 out of 5 stars
Small Sling Backpack Crossbody Sling Bag, Chest Bag Daypack Fanny Pack Cross Body Bag for Outdoors Hiking Traveling	61.	4.6 out of 5 stars
Kipling	28.	4.6 out of 5 stars
Sabian Printed Crossbody Mini Bag	174.	4.4 out of 5 stars
LOVEVOOK	22.	4.6 out of 5 stars
LOVEVOOK Laptop Bag for Women 15.6 Inch Laptop Tote Work Bag Professional Leather Computer Briefcase Waterproof Business Teacher Office Bag Handbag	199.	4.5 out of 5 stars
BAGSMART	25.	4.6 out of 5 stars
Tote Bag for Women, Foldable Tote Bag With Zipper Large Shoulder Bag Top Handle Handbag for Travel, Work	36.	4.6 out of 5 stars
Montana West	25.	4.3 out of 5 stars
Tote Bags for Women Medium Top Handle Handbags with Scarf	25.	4.6 out of 5 stars
Calvin Klein	22.	4.6 out of 5 stars

```
## 15 31. 4.6 out of 5 stars
## 16 18. 4.4 out of 5 stars
## 17 28. 4.7 out of 5 stars
## 18 52. 4.3 out of 5 stars
## 19 20. 4.4 out of 5 stars
## 20 19. 4.7 out of 5 stars
## 21 61. 4.6 out of 5 stars
## 22 28. 4.6 out of 5 stars
## 23 174. 4.4 out of 5 stars
## 24 22. 4.6 out of 5 stars
## 25 199. 4.5 out of 5 stars
## 26 25. 4.6 out of 5 stars
## 27 36. 4.6 out of 5 stars
## 28 25. 4.3 out of 5 stars
## 29 25. 4.6 out of 5 stars
## 30 22. 4.6 out of 5 stars
```

```
bags %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
shoes <- data.frame(nameofproduct[[4]],
                    Price = price[[4]],
                    Ratings = Ratings[[4]],
                    stringsAsFactors = FALSE
)
head(shoes, 30)
```

```
##
## 1
## 2
## 3
## 4
## 5
## 6
```

nameofj

Men's Lite Racer Adapt

Amazon's Choice: (

Men's Charged Surg

7 HEYDUDE Wally Amazon Exclusive Styles, Men's Shoes, Men's Slip-on Loafers, Comfortable & L

8

9 Mens Non Slip Walking Sneakers Lightweight Breathable Slip on Running Shoes Athletic Gym Tennis S

10

11 Men's 608 V5 Casual Comfort C

12

13 Men's Charg

14

15 Women's Squad Sr Food S

16

17 Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual W

18

19 Men's Wally Stretch | Men's Loafers | Men's Slip On Shoes | Comfortable & L

20

21 Men's Tazon 6 C

22

23 Men's Daily

24

25 Men's Drive

26

27 Men's Go Wall

28

29 Men's BB4500 L

30

##	Price	Ratings
## 1	44.	4.3 out of 5 stars
## 2	58.	4.4 out of 5 stars
## 3	39.	4.7 out of 5 stars
## 4	45.	4.3 out of 5 stars
## 5	38.	4.6 out of 5 stars
## 6	29.	4.5 out of 5 stars
## 7	64.	4.3 out of 5 stars
## 8	50.	4.6 out of 5 stars
## 9	44.	4.7 out of 5 stars
## 10	31.	4.4 out of 5 stars
## 11	44.	4.7 out of 5 stars
## 12	39.	4.4 out of 5 stars
## 13	49.	4.6 out of 5 stars
## 14	30.	4.5 out of 5 stars
## 15	41.	4.7 out of 5 stars
## 16	37.	4.5 out of 5 stars
## 17	26.	4.6 out of 5 stars
## 18	34.	4.5 out of 5 stars
## 19	41.	4.5 out of 5 stars
## 20	64.	4.6 out of 5 stars
## 21	33.	4.5 out of 5 stars
## 22	59.	4.6 out of 5 stars
## 23	36.	4.5 out of 5 stars
## 24	48.	4.4 out of 5 stars
## 25	44.	4.6 out of 5 stars
## 26	179.	4.3 out of 5 stars
## 27	70.	4.5 out of 5 stars
## 28	56.	4.4 out of 5 stars
## 29	44.	4.4 out of 5 stars

nameofproduct..4..	Price	Ratings
adidas	44.	4.3 out of 5 stars
Men's Lite Racer Adapt 7.0 Sneaker	58.	4.4 out of 5 stars
Amazon's Choice: Overall Pick	39.	4.7 out of 5 stars
Under Armour	45.	4.3 out of 5 stars
Men's Charged Surge 4 Sneaker	38.	4.6 out of 5 stars
Hey Dude	29.	4.5 out of 5 stars
HEYDUDE Wally Amazon Exclusive Styles, Men's Shoes, Men's Slip-on Loafers, Comfortable & Light-Weight	64.	4.3 out of 5 stars
Feethit	50.	4.6 out of 5 stars
Mens Non Slip Walking Sneakers Lightweight Breathable Slip on Running Shoes Athletic Gym Tennis Shoes for Men	44.	4.7 out of 5 stars
New Balance	31.	4.4 out of 5 stars
Men's 608 V5 Casual Comfort Cross Trainer	44.	4.7 out of 5 stars
Under Armour	39.	4.4 out of 5 stars
Men's Charged Assert 10	49.	4.6 out of 5 stars
Skechers	30.	4.5 out of 5 stars
Women's Squad Sr Food Service Shoe	41.	4.7 out of 5 stars
Bruno Marc	37.	4.5 out of 5 stars
Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking Shoes	26.	4.6 out of 5 stars
Hey Dude	34.	4.5 out of 5 stars
Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight	41.	4.5 out of 5 stars
PUMA	64.	4.6 out of 5 stars
Men's Tazon 6 Cross Trainer	33.	4.5 out of 5 stars
adidas	59.	4.6 out of 5 stars
Men's Daily 3.0 Sneaker	36.	4.5 out of 5 stars
Levi's	48.	4.4 out of 5 stars
Men's Drive Lo Sneaker	44.	4.6 out of 5 stars
Skechers	179.	4.3 out of 5 stars
Men's Go Walk Max Effort	70.	4.5 out of 5 stars
Reebok	56.	4.4 out of 5 stars
Men's BB4500 Hi 2 Sneaker	44.	4.4 out of 5 stars
Hey Dude	40.	4.5 out of 5 stars

```
## 30    40. 4.5 out of 5 stars
```

```
shoes %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")

pants <- data.frame(nameofproduct[[5]],
                     Price = price[[5]],
                     Ratings = Ratings[[5]],
                     stringsAsFactors = FALSE
                     )

head(pants, 30)
```

```
##
## 1                                     Amazon's Choice
## 2                                     W
## 3                                     Men's Relaxed Fit
## 4
## 5                                     3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants w
## 6
## 7                                     Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga P
## 8
## 9                                     ComfortSoft EcoSmart Men's
## 10
## 11                                    Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout
## 12
## 13                                    Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (R
## 14
## 15                                    Men's Extreme Motion
```

```

## 16
## 17                               Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Availa
## 18
## 19                               Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture W
## 20
## 21                               Men's Joggers, Lightweight Lounge Pants, Jersey Graphic L
## 22
## 23                               Men's
## 24
## 25                               Flare Leggings, Crossover Yoga Pants with Tummy Control, High-Wa
## 26
## 27 3 Pack Women's Wide Leg Pants with Pockets - Casual Loose Yoga Trouser Pants Sweatpants Palazzo L
## 28
## 29                               Men's Heavyweight L
## 30
##      Price      Ratings
## 1    146. 4.5 out of 5 stars
## 2    199. 4.4 out of 5 stars
## 3    168. 4.4 out of 5 stars
## 4     23. 4.5 out of 5 stars
## 5     36. 4.3 out of 5 stars
## 6     19. 4.5 out of 5 stars
## 7      9. 4.4 out of 5 stars
## 8     25. 4.4 out of 5 stars
## 9     17. 4.3 out of 5 stars
## 10    18. 4.3 out of 5 stars
## 11     4. 4.4 out of 5 stars
## 12     8. 4.5 out of 5 stars
## 13    17. 4.4 out of 5 stars
## 14    27. 4.6 out of 5 stars
## 15    19. 4.4 out of 5 stars
## 16    32. 4.3 out of 5 stars
## 17    41. 4.5 out of 5 stars
## 18    12. 4.5 out of 5 stars
## 19    30. 4.3 out of 5 stars
## 20    12. 4.7 out of 5 stars
## 21    24. 4.4 out of 5 stars
## 22    23. 4.6 out of 5 stars
## 23    32. 4.5 out of 5 stars
## 24     8. 4.3 out of 5 stars
## 25    18. 4.6 out of 5 stars
## 26    28. 4.3 out of 5 stars
## 27    21. 4.4 out of 5 stars
## 28    26. 4.6 out of 5 stars
## 29    20. 4.3 out of 5 stars
## 30    23. 4.6 out of 5 stars

```

```

pants %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")

```

6. Describe the data you have extracted.

The extracted dataset contains key details about products across five categories: Skincare, Perfume, Bags, Shoes, and Pants. Here's an overview:

nameofproduct..5..	Price	Ratings
Amazon's Choice: Overall Pick	146.	4.5 out of 5 stars
Wrangler Authentics	199.	4.4 out of 5 stars
Men's Relaxed Fit Stretch Cargo Pant	168.	4.4 out of 5 stars
Ultra Performance	23.	4.5 out of 5 stars
3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Zipper Pockets	36.	4.3 out of 5 stars
THE GYM PEOPLE	19.	4.5 out of 5 stars
Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings for Women	9.	4.4 out of 5 stars
Hanes	25.	4.4 out of 5 stars
ComfortSoft EcoSmart Men's Fleece Sweatpants	17.	4.3 out of 5 stars
G Gradual	18.	4.3 out of 5 stars
Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging, Running	4.	4.4 out of 5 stars
Champion	8.	4.5 out of 5 stars
Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Reg. or Big & Tall)	17.	4.4 out of 5 stars
Lee	27.	4.6 out of 5 stars
Men's Extreme Motion Canvas Cargo Pant	19.	4.4 out of 5 stars
Amazon Essentials	32.	4.3 out of 5 stars
Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in Big & Tall)	41.	4.5 out of 5 stars
Fruit of the Loom	12.	4.5 out of 5 stars
Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking, Breathable	30.	4.3 out of 5 stars
Champion	12.	4.7 out of 5 stars
Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pants for Men, 31"	24.	4.4 out of 5 stars
Under Armour	23.	4.6 out of 5 stars
Men's Woven Vital Pants	32.	4.5 out of 5 stars
Sunzel	8.	4.3 out of 5 stars
Flare Leggings, Crossover Yoga Pants with Tummy Control, High-Waisted and Wide Leg	18.	4.6 out of 5 stars
TNNZEET	28.	4.3 out of 5 stars
3 Pack Women's Wide Leg Pants with Pockets - Casual Loose Yoga Trouser Pants Sweatpants Palazzo Lounge Pajama Pants	21.	4.4 out of 5 stars
Pro Club	26.	4.6 out of 5 stars
Men's Heavyweight Fleece Cargo Pants	20.	4.3 out of 5 stars
Hanes	23.	4.6 out of 5 stars

Product Name: The titles of the 30 products per category, retrieved from the website.

Price: Numerical values indicating the price, cleaned and standardized for analysis.

Description: Short descriptions highlighting the features of each product.

Ratings: Average star ratings (1 to 5) given by customers, reflecting product quality or satisfaction.

Category: A label indicating which category the product belongs to.

Size: A total of 150 products, with 30 from each category.

The data reveals insights into product characteristics and consumer feedback, aiding in trend analysis and decision-making.

7. What will be your use case for the data you have extracted?

The extracted data can be applied in several practical contexts:

Market Analysis:

-Identifying price trends and outliers in each category.

-Analyzing consumer preferences based on product ratings and reviews.

Customer Insights:

-Recommending products with the best quality-price ratio. Highlighting top-rated or most affordable products in each category.

Retail Strategies: -Informing inventory stocking by analyzing trends in popular products.

-Pricing strategies for competitive positioning.

Visualization and Reporting:

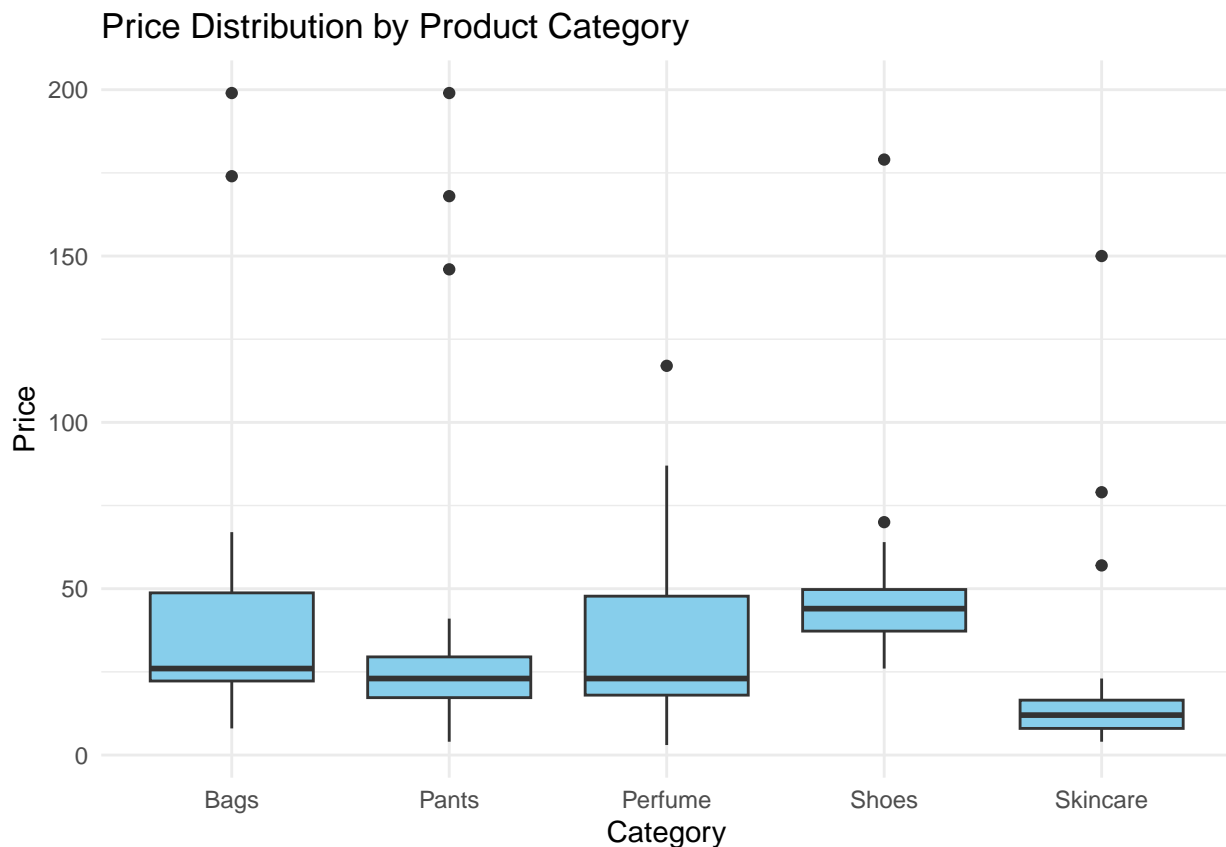
-Using the data to create visual insights for presentations or reports.

8. Create graphs regarding the use case. And briefly explain it.

```
category_names <- c("Skincare", "Perfume", "Bags", "Shoes", "Pants")
all_data <- bind_rows(
  skincare %>% mutate(Category = "Skincare"),
  perfume %>% mutate(Category = "Perfume"),
  bags %>% mutate(Category = "Bags"),
  shoes %>% mutate(Category = "Shoes"),
  pants %>% mutate(Category = "Pants")
)

all_data$Price <- as.numeric(gsub(",", "", all_data$Price))

ggplot(all_data, aes(x = Category, y = Price)) +
  geom_boxplot(fill = "skyblue") +
  labs(title = "Price Distribution by Product Category", x = "Category", y = "Price") +
  theme_minimal()
```



The boxplot visualizes the distribution of product prices across categories.

Insights:

-The spread of prices varies significantly by category. -Categories like Bags and Shoes may have higher median prices and broader ranges compared to Skincare or Perfume.

9. Graph the price and the ratings for each category. Use basic plotting functions and ggplot2 package.

```
ggplot(all_data, aes(x = Price, y = as.numeric(Ratings))) +
  geom_point(aes(color = Category, size = 2)) +
  labs(title = "Price vs Ratings by Category", x = "Price", y = "Ratings") +
```

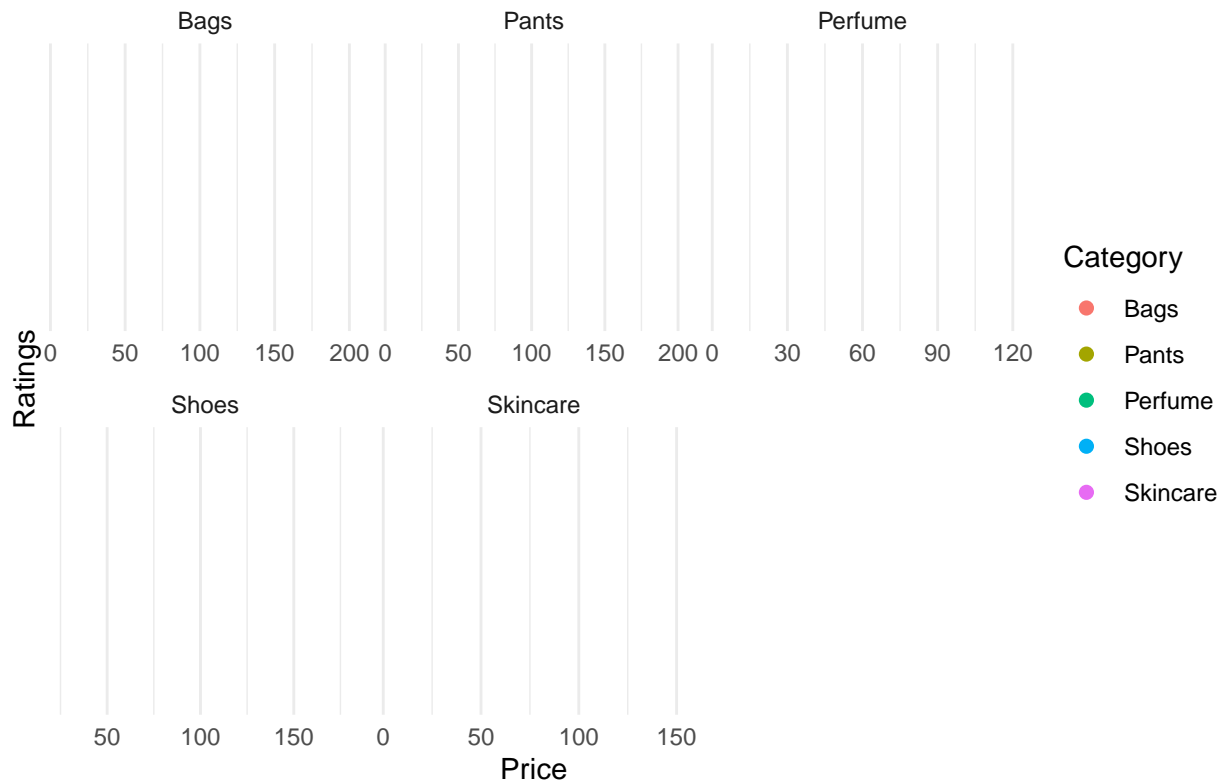


```
theme_minimal() +
facet_wrap(~ Category, scales = "free")
```

```
## Warning in FUN(X[[i]], ...): NAs introduced by coercion
```

```
## Warning: Removed 150 rows containing missing values or values outside the scale range
## (`geom_point()`).
```

Price vs Ratings by Category



The scatter plot illustrates the relationship between price and ratings for each category.

Explanation:

- The relationship is plotted per category using `facet_wrap`.
- The plot highlights clusters or trends, such as whether higher prices correlate with higher ratings.
- Outliers or inconsistencies in pricing or ratings are easily spotted.

10. Rank the products of each category by price and ratings. Explain briefly.

```
skincare$Price <- as.numeric(gsub(",", "", skincare$Price))
perfume$Price <- as.numeric(gsub(",", "", perfume$Price))
bags$Price <- as.numeric(gsub(",", "", bags$Price))
shoes$Price <- as.numeric(gsub(",", "", shoes$Price))
pants$Price <- as.numeric(gsub(",", "", pants$Price))

skincare_ranked <- skincare %>% arrange(desc(Price), desc(Ratings))
perfume_ranked <- perfume %>% arrange(desc(Price), desc(Ratings))
bags_ranked <- bags %>% arrange(desc(Price), desc(Ratings))
shoes_ranked <- shoes %>% arrange(desc(Price), desc(Ratings))
pants_ranked <- pants %>% arrange(desc(Price), desc(Ratings))
```

```
head(skincare_ranked, 30)
```

```
##
## 1      Medicube Collagen Overnight Wrapping Peel Off Facial Mask Pack - Elasticity & Hydration
## 2                                     SKIN Hydrated Ever After Skincare
## 3                                     Squeeze Me Lip Balm, Moisturizing Lip
## 4      Colossal Foot rasp Foot File and Callus Remover. Best Foot Care Pedicure Metal
## 5                                     Heartleaf Pore Control Cleanser
## 6                                     Snail Mucin 96% Power Face Serum 3.38 fl
## 7
## 8      COSRX Snail Mucin 92% Moisturizer, Daily Repair Face Gel Cream Tube Type for Dry, Sensitive Sk
## 9                                     Snail Mucin 92% Face Moisturizer, 3.52
## 10 Under Eye Patches, 40 Pairs Eye Mask for Dark Circles, Puffy Eyes, Undereye Bags,Wrinkles, Eye Mas
## 11                                     Facial Spr
## 12
## 13      Moisturizing Cream | Body and Face Moisturizer for Dry Skin | Body Cream with Hyal
## 14
## 15
## 16                                     Bio-Collagen
## 17      Age-R Booster Pro | 6-in-1 Real Glass Glow Device | Looking Glass Skin
## 18
## 19
## 20
## 21      COSRX Snail Mucin 96% Power Face Serum 3.38 fl
## 22      Pimple Patches for Face, Hydrocolloid Acne Patches, Cute Star Zit Covers, C
## 23
## 24
## 25
## 26      Toleriane Double Repair Face Moisturizer | Da
## 27
## 28      Collagen Jelly Cream- Niacinamide & Freeze-Dried Hydrolyzed Collagen - Boosts skin's
## 29                                     Le
## 30
##      Price      Ratings
## 1      150 4.6 out of 5 stars
## 2       79 4.7 out of 5 stars
## 3       57 4.3 out of 5 stars
## 4       23 4.3 out of 5 stars
## 5       21 4.7 out of 5 stars
## 6       20 4.5 out of 5 stars
## 7       17 4.6 out of 5 stars
## 8       17 4.5 out of 5 stars
## 9       15 4.5 out of 5 stars
## 10      15 4.4 out of 5 stars
## 11      14 4.6 out of 5 stars
## 12      13 4.5 out of 5 stars
## 13      12 4.7 out of 5 stars
## 14      12 4.6 out of 5 stars
## 15      12 4.6 out of 5 stars
## 16      12 4.6 out of 5 stars
## 17      12 4.5 out of 5 stars
## 18      12 4.3 out of 5 stars
## 19      11 4.7 out of 5 stars
```

nameofproduct...1..	Price	Ratings
Medicube Collagen Overnight Wrapping Peel Off Facial Mask Pack - Elasticity & Hydration Care, Reduces Sagging & Dullness - Hydrolyzed Collagen For Glowing Skin - Korean Skin Care, 2.53 fl.oz	150	4.6 out of 5 stars
SKIN Hydrated Ever After Skincare Mini Kit, Cleanser, Makeup Remover, Moisturiser & Eye Cream For Hydrating Skin, Airplane-Friendly Sizes	79	4.7 out of 5 stars
Squeeze Me Lip Balm, Moisturizing Lip Balm For A Sheer Tint Of Color, Infused With Hyaluronic Acid, Vegan & Cruelty-free, Strawberry	57	4.3 out of 5 stars
Colossal Foot rasp Foot File and Callus Remover. Best Foot Care Pedicure Metal Surface Tool to Remove Hard Skin. Can be Used on Both Wet and Dry feet, High Grade Stainless Steel File	23	4.3 out of 5 stars
Heartleaf Pore Control Cleansing Oil, Oil Cleanser for Face, Makeup Blackhead Remover, Korean Skin Care 6.76 fl oz(200ml) (original)	21	4.7 out of 5 stars
Snail Mucin 96% Power Face Serum 3.38 fl oz 100ml, Hydrating Serum for Face, Self Care, Glow Skin under Makeup, Korean Skin Care, Korean Beauty	20	4.5 out of 5 stars
Mario Badescu	17	4.6 out of 5 stars
COSRX Snail Mucin 92% Moisturizer, Daily Repair Face Gel Cream Tube Type for Dry, Sensitive Skin, Not Tested on Animals, No Parabens, No Sulfates, No Phthalates, Korean Skin Care (7.05Fl Oz / 200g)	17	4.5 out of 5 stars
Snail Mucin 92% Face Moisturizer, 3.52 Oz, Lightweight Moisturing Cream for Soft, Glowy Skin, Korean Skin Care, Korean Moisturizer Face Cream	15	4.5 out of 5 stars
Under Eye Patches, 40 Pairs Eye Mask for Dark Circles, Puffy Eyes, Undereye Bags,Wrinkles,Eye Mask Patches with 24K Gold, Hyaluronic Acid,Rose & Aloe Vera, Eye Treatment Skin Care for Men & Women Gift	15	4.4 out of 5 stars
Facial Spray with Aloe, Herbs and Rose Water for All Skin Types, Face Mist that Hydrates, Rejuvenates & Clarifies	14	4.6 out of 5 stars
CeraVe	13	4.5 out of 5 stars
Moisturizing Cream Body and Face Moisturizer for Dry Skin Body Cream with Hyaluronic Acid and Ceramides Daily Moisturizer Oil-Free Fragrance Free Non-Comedogenic 19 Ounce	12	4.7 out of 5 stars
Amazon's Choice: Overall Pick	12	4.6 out of 5 stars
BIODANCE	12	4.6 out of 5 stars
Bio-Collagen Real Deep Mask, Hydrating Overnight Hydrogel Mask, Pore Minimizing, Elasticity Improvement, 34g x4ea	12	4.6 out of 5 stars
Age-R Booster Pro 6-in-1 Real Glass Glow Device Looking Glass Skin with Enhanced Absorption, Radiance, Elasticity,Pore Care LED Anti-Wrinkle Device Korean Skin Care	12	4.5 out of 5 stars
COSRX	12	4.3 out of 5 stars
ANUA	11	4.7 out of 5 stars
e.l.f.	9	4.7 out of 5 stars
COSRX Snail Mucin 96% Power Face Serum 3.38 fl oz 100ml, Hydrating Serum for Face, Self Care, Glow Skin under Makeup, Korean Skin Care, Korean Beauty	9	4.4 out of 5 stars
Pimple Patches for Face, Hydrocolloid Acne Patches, Cute Star Ziti Covers, Colorful Spot Stickers with Tea Tree, Salicylic Acid & Cica Oil 3 Sizes (10mm, 12mm & 14mm) 200 Count	8	4.6 out of 5 stars
e.l.f.	8	4.3 out of 5 stars
COSRX	8	4.3 out of 5 stars
Medicube	7	4.7 out of 5 stars
Toleriane Double Repair Face Moisturizer Daily Moisturizer Face Cream with Ceramide and Niacinamide for All Skin Types Oil Free Fragrance Free	6	4.5 out of 5 stars
La Roche-Posay	5	4.6 out of 5 stars
Collagen Jelly Cream- Niacinamide & Freeze-Dried Hydrolyzed Collagen - Boosts skin's barrier hydration and gives 24h Glow & Lifted Look - No artificial color, Korean skincare (3.71 fl.oz.)	5	4.6 out of 5 stars
LED Face Mask Light Therapy, 7-1 Colors LED Facial Skin Care Mask, Red Light Therapy Mask for Face, White	5	4.3 out of 5 stars
Medicube	4	4.5 out of 5 stars

```
## 20      9 4.7 out of 5 stars
## 21      9 4.4 out of 5 stars
## 22      8 4.6 out of 5 stars
## 23      8 4.3 out of 5 stars
## 24      8 4.3 out of 5 stars
## 25      7 4.7 out of 5 stars
## 26      6 4.5 out of 5 stars
## 27      5 4.6 out of 5 stars
## 28      5 4.6 out of 5 stars
## 29      5 4.3 out of 5 stars
## 30      4 4.5 out of 5 stars
```

```
skincare_ranked %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
head(perfume_ranked, 30)
```

```
##
## 1      Ed Hardy Women's Perfume
## 2
## 3
## 4
## 5      Lucky You Perfume for Women, Eau De Toilette
## 6      Billie Eilish Eau de Parfum Perfume for Women, Notes of Sugared Petals, Vanilla & Mus
## 7      Versace Br
## 8      Vera Wang P
## 9      Ariana Grande Cloud Eau de Parfum - Warm Gourmand Fragrance for Women -
Women's Perfume with Notes of Lavender, Coconut, Vanilla & Pear
## 10      Vera Wang Eau de Parfum for Women - Delicate, Floral Scent - Notes o
## 11      Sol de .
## 12      Victoria's Secret Bombshell Mini Fragrance Mist, Notes of Purple Passion Fruit, Shangri-La Peo
## 13
## 14
## 15
## 16 Swiss Arabian Layali Rouge - Luxury Arabian Perfume Oil from Dubai - Long Lasting Arabian Perfume
## 17      Da
## 18
```

```

## 19
## 20 Victoria's Secret Mini Eau de Parfum Discovery Gift Set: L
## 21 KHADLAJ PERFUMES Hareem A
## 22
## 23 Bodycology Lon
## 24
## 25 Latta
## 26
## 27 Victoria's
## 28
## 29 L
## 30 Victoria's Secret Fragrance Mist Collection 4

## Price Ratings
## 1 117 4.5 out of 5 stars
## 2 87 4.4 out of 5 stars
## 3 78 4.3 out of 5 stars
## 4 55 4.7 out of 5 stars
## 5 55 4.4 out of 5 stars
## 6 53 4.5 out of 5 stars
## 7 51 4.7 out of 5 stars
## 8 48 4.5 out of 5 stars
## 9 47 4.5 out of 5 stars
## 10 45 4.6 out of 5 stars
## 11 28 4.3 out of 5 stars
## 12 26 4.6 out of 5 stars
## 13 26 4.4 out of 5 stars
## 14 25 4.7 out of 5 stars
## 15 24 4.3 out of 5 stars
## 16 22 4.6 out of 5 stars
## 17 22 4.5 out of 5 stars
## 18 22 4.4 out of 5 stars
## 19 20 4.6 out of 5 stars
## 20 19 4.6 out of 5 stars
## 21 18 4.6 out of 5 stars
## 22 18 4.6 out of 5 stars
## 23 18 4.5 out of 5 stars
## 24 16 4.6 out of 5 stars
## 25 15 4.6 out of 5 stars
## 26 13 4.7 out of 5 stars
## 27 11 4.5 out of 5 stars
## 28 11 4.5 out of 5 stars
## 29 10 4.6 out of 5 stars
## 30 3 4.7 out of 5 stars

perfume_ranked %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")

head(bags_ranked, 30)

##
## 1 LOVEVOOK Laptop Bag for Women 15.6 Inch Laptop Tote Work Bag Professional Leather Computer Briefc
## 2
## 3 3PCS Purses and Handbags for Women Tote P
## 4

```

nameofproduct..2..	Price	Ratings
Ed Hardy Women's Perfume Fragrance by Christian Audigier, Eau De Parfum, 3.4 Fl Oz	117	4.5 out of 5 stars
Valentino Valentino Donna Born In Roma EDP Spray Women 3.4 oz	87	4.4 out of 5 stars
Al-Rehab Choco Musk Eau de Parfum Spray for Women, 1.7 Ounce	78	4.3 out of 5 stars
Victoria's Secret Bombshell Fine Fragrance 8.4oz Mist	55	4.7 out of 5 stars
Lucky You Perfume for Women, Eau De Toilette Day or Night Spray with Fresh Flower Citrus Scent, 3.4 fl oz	55	4.4 out of 5 stars
Billie Eilish Eau de Parfum Perfume for Women, Notes of Sugared Petals, Vanilla & Musk, Amber Gourmand + Woody Floral Fragrance, Long Lasting Scent	53	4.5 out of 5 stars
Versace Bright Crystal by Versace for Women 6.7 oz Eau de Toilette Spray	51	4.7 out of 5 stars
Vera Wang Princess Eau de Toilette Spray for Women, Vanilla, 3.4 Fl Ounce	48	4.5 out of 5 stars
Ariana Grande Cloud Eau de Parfum - Warm Gourmand Fragrance for Women - Women's Perfume with Notes of Lavender, Coconut, Vanilla & Pear	47	4.5 out of 5 stars
Vera Wang Eau de Parfum for Women - Delicate, Floral Scent - Notes of Iris, Lillies, & Sandalwood - Feminine & Subtle - 3.4 Fl Oz	45	4.6 out of 5 stars
Sol de Janeiro Hair & Body Fragrance Mist Travel Size 90mL/3.0 fl oz.	28	4.3 out of 5 stars
Victoria's Secret Bombshell Mini Fragrance Mist, Notes of Purple Passion Fruit, Shangri-La Peony & Vanilla Orchid, Travel Size Body Spray for Women (2.5 oz)	26	4.6 out of 5 stars
Lattafa Rave Now Eau de Parfum Spray for Women, 3.4 Ounce	26	4.4 out of 5 stars
Versace Crystal Noir by Versace for Women - 3 Fl Oz EDT Spray	25	4.7 out of 5 stars
Victoria's Secret Tease Fine Fragrance 8.4oz Mist	24	4.3 out of 5 stars
Swiss Arabian Layali Rouge - Luxury Arabian Perfume Oil from Dubai - Long Lasting Arabian Perfume for Women - Exotic, Fruity, Floral, Alcohol Free EDP - 0.5 oz	22	4.6 out of 5 stars
Daisy By Marc Jacobs for Women Eau De Toilette Spray, 1.7 Fl Oz	22	4.5 out of 5 stars
Amazon's Choice: Overall Pick	22	4.4 out of 5 stars
Lattafa Perfumes Asad for Unisex Eau de Parfum Spray, 3.4 Ounce	20	4.6 out of 5 stars
Victoria's Secret Mini Eau de Parfum Discovery Gift Set: Bombshell, Bombshell Magic, Tease, Bare, Very Sexy, & Heavenly	19	4.6 out of 5 stars
KHADLAJ PERFUMES Hareem Al Sultan Gold Concentrated Perfume Oil for Unisex, 1.18 Ounce	18	4.6 out of 5 stars
Lattafa Yara Moi Eau de Parfum Spray for Women, 3.4 Ounce	18	4.6 out of 5 stars
Bodycology Long-Lasting Fragrance Body Mist, Strawberry Cheesecake, 8 fl oz	18	4.5 out of 5 stars
Marc Jacobs Perfect for Women Eau de Parfum Spray, 1.6 Ounce	16	4.6 out of 5 stars
Lattafa Perfumes Khamrah for Unisex Eau de Parfum Spray, 3.4 Ounce	15	4.6 out of 5 stars
Marc Jacobs Perfect Eau de Parfum Spray for Women, 3.3 Ounce	13	4.7 out of 5 stars
Victoria's Secret Bare Vanilla Body Mist, Body Spray for Women (8.4 oz)	11	4.5 out of 5 stars
Floral Eau De Parfum	11	4.5 out of 5 stars
Lattafa Yara for Women Eau de Parfum Spray, 3.40 Ounce / 100 ml	10	4.6 out of 5 stars
Victoria's Secret Fragrance Mist Collection 4 Piece Mini Mist Gift Set, Assorted Scents, Gift Set for Women	3	4.7 out of 5 stars

5

Crossbody Bags for Women Trendy Vegan Leather Hobo

6

Small Sling Backpack Crossbody Sling Bag, Chest Bag Daypack Fanny

7

8

9

10

Tote Bag for Women, Foldable Tote Bag With Zipper Large

11

Women's Jet Set Item Crossbody

12

13

14

Color-Block Crossbody Bags for Women Leather Cross Body Purse

15

Tote Bag for Women, Lightweight Puffy Tote Bag with Compartmen

16

17

18

19

Tote Bag

20

21

22

23

24

25

26

Purses and Handbags for Women, Tote Shoulder Bag Satchel

27

28

29

30

Price Ratings

1 199 4.5 out of 5 stars

2 174 4.4 out of 5 stars

3 67 4.7 out of 5 stars

4 67 4.6 out of 5 stars

5 66 4.3 out of 5 stars

6 61 4.6 out of 5 stars

7 57 4.5 out of 5 stars

nameofproduct..3..	Price	Ratings
LOVEVOOK Laptop Bag for Women 15.6 Inch Laptop Tote Work Bag Professional Leather Computer Briefcase Waterproof Business Teacher Office Bag Handbag	199	4.5 out of 5 stars
Sabian Printed Crossbody Mini Bag	174	4.4 out of 5 stars
3PCS Purses and Handbags for Women Tote Purse and Wallet Set Shoulder Satchel Bag for Women	67	4.7 out of 5 stars
Montana West	67	4.6 out of 5 stars
Crossbody Bags for Women Trendy Vegan Leather Hobo Purses Shoulder Handbags With Wide Shoulder Strap	66	4.3 out of 5 stars
Small Sling Backpack Crossbody Sling Bag, Chest Bag Daypack Fanny Pack Cross Body Bag for Outdoors Hiking Traveling	61	4.6 out of 5 stars
BAGSMART	57	4.5 out of 5 stars
LOVEVOOK	52	4.3 out of 5 stars
BOSTANTEN	39	4.6 out of 5 stars
Tote Bag for Women, Foldable Tote Bag With Zipper Large Shoulder Bag Top Handle Handbag for Travel, Work	36	4.6 out of 5 stars
Women's Jet Set Item Crossbody Bag in Black with Silver hardware (Black/Silver)	31	4.6 out of 5 stars
East West Chain, Brown	28	4.7 out of 5 stars
Kipling	28	4.6 out of 5 stars
Color-Block Crossbody Bags for Women Leather Cross Body Purses Cute Designer Handbags Shoulder Bag Medium Size	27	4.6 out of 5 stars
Tote Bag for Women, Lightweight Puffy Tote Bag with Compartments, Quilted Shoulder Bag Handbag for Travel, Work	26	4.7 out of 5 stars
Amazon's Choice: Overall Pick	26	4.6 out of 5 stars
(Crossbody	26	4.5 out of 5 stars
BAGSMART	25	4.6 out of 5 stars
Tote Bags for Women Medium Top Handle Handbags with Scarf	25	4.6 out of 5 stars
Montana West	25	4.3 out of 5 stars
TOP BAND	23	4.7 out of 5 stars
Michael Kors	23	4.6 out of 5 stars
LOVEVOOK	22	4.6 out of 5 stars
Calvin Klein	22	4.6 out of 5 stars
Michael Kors	21	4.5 out of 5 stars
Purses and Handbags for Women, Tote Shoulder Bag Satchel Black Purse and PU Leather Top Handle for ladies	20	4.4 out of 5 stars
Banehu	19	4.7 out of 5 stars
Michael Kors	19	4.3 out of 5 stars
Michael Kors	18	4.4 out of 5 stars
Jet Set Travel Medium Logo Crossbody Bag	8	4.7 out of 5 stars

```
## 8      52 4.3 out of 5 stars
## 9      39 4.6 out of 5 stars
## 10     36 4.6 out of 5 stars
## 11     31 4.6 out of 5 stars
## 12     28 4.7 out of 5 stars
## 13     28 4.6 out of 5 stars
## 14     27 4.6 out of 5 stars
## 15     26 4.7 out of 5 stars
## 16     26 4.6 out of 5 stars
## 17     26 4.5 out of 5 stars
## 18     25 4.6 out of 5 stars
## 19     25 4.6 out of 5 stars
## 20     25 4.3 out of 5 stars
## 21     23 4.7 out of 5 stars
## 22     23 4.6 out of 5 stars
## 23     22 4.6 out of 5 stars
## 24     22 4.6 out of 5 stars
## 25     21 4.5 out of 5 stars
## 26     20 4.4 out of 5 stars
## 27     19 4.7 out of 5 stars
## 28     19 4.3 out of 5 stars
## 29     18 4.4 out of 5 stars
## 30      8 4.7 out of 5 stars
```

```
bags_ranked %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
head(shoes_ranked, 30)
```

```
##
## 1
## 2
## 3
```

nameofj

Men's Go Wall

```

## 4      HEYDUDE Wally Amazon Exclusive Styles, Men's Shoes, Men's Slip-on Loafers, Comfortable &
## 5
## 6      Men's Lite Racer Adapt
## 7
## 8
## 9      Men's Charg
## 10
## 11
## 12 Mens Non Slip Walking Sneakers Lightweight Breathable Slip on Running Shoes Athletic Gym Tennis S
## 13      Men's 608 V5 Casual Comfort C
## 14      Men's Drive
## 15      Men's BB4500
## 16
## 17      Women's Squad Sr Food S
## 18      Men's Wally Stretch | Men's Loafers | Men's Slip On Shoes | Comfortable &
## 19
## 20      Amazon's Choice:
## 21
## 22      Men's Charged Sur
## 23
## 24      Men's Daily
## 25
## 26      Men's Tazon 6 C
## 27
## 28
## 29
## 30      Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual W
##      Price      Ratings
## 1      179 4.3 out of 5 stars
## 2      70 4.5 out of 5 stars
## 3      64 4.6 out of 5 stars
## 4      64 4.3 out of 5 stars
## 5      59 4.6 out of 5 stars
## 6      58 4.4 out of 5 stars
## 7      56 4.4 out of 5 stars
## 8      50 4.6 out of 5 stars
## 9      49 4.6 out of 5 stars
## 10     48 4.4 out of 5 stars
## 11     45 4.3 out of 5 stars
## 12     44 4.7 out of 5 stars
## 13     44 4.7 out of 5 stars
## 14     44 4.6 out of 5 stars
## 15     44 4.4 out of 5 stars
## 16     44 4.3 out of 5 stars
## 17     41 4.7 out of 5 stars
## 18     41 4.5 out of 5 stars
## 19     40 4.5 out of 5 stars
## 20     39 4.7 out of 5 stars
## 21     39 4.4 out of 5 stars
## 22     38 4.6 out of 5 stars
## 23     37 4.5 out of 5 stars
## 24     36 4.5 out of 5 stars
## 25     34 4.5 out of 5 stars
## 26     33 4.5 out of 5 stars

```

nameofproduct..4..	Price	Ratings
Skechers	179	4.3 out of 5 stars
Men's Go Walk Max Effort	70	4.5 out of 5 stars
PUMA	64	4.6 out of 5 stars
HEYDUDE Wally Amazon Exclusive Styles, Men's Shoes, Men's Slip-on Loafers, Comfortable & Light-Weight	64	4.3 out of 5 stars
adidas	59	4.6 out of 5 stars
Men's Lite Racer Adapt 7.0 Sneaker	58	4.4 out of 5 stars
Reebok	56	4.4 out of 5 stars
Feethit	50	4.6 out of 5 stars
Men's Charged Assert 10	49	4.6 out of 5 stars
Levi's	48	4.4 out of 5 stars
Under Armour	45	4.3 out of 5 stars
Mens Non Slip Walking Sneakers Lightweight Breathable Slip on Running Shoes Athletic Gym Tennis Shoes for Men	44	4.7 out of 5 stars
Men's 608 V5 Casual Comfort Cross Trainer	44	4.7 out of 5 stars
Men's Drive Lo Sneaker	44	4.6 out of 5 stars
Men's BB4500 Hi 2 Sneaker	44	4.4 out of 5 stars
adidas	44	4.3 out of 5 stars
Women's Squad Sr Food Service Shoe	41	4.7 out of 5 stars
Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight	41	4.5 out of 5 stars
Hey Dude	40	4.5 out of 5 stars
Amazon's Choice: Overall Pick	39	4.7 out of 5 stars
Under Armour	39	4.4 out of 5 stars
Men's Charged Surge 4 Sneaker	38	4.6 out of 5 stars
Bruno Marc	37	4.5 out of 5 stars
Men's Daily 3.0 Sneaker	36	4.5 out of 5 stars
Hey Dude	34	4.5 out of 5 stars
Men's Tazon 6 Cross Trainer	33	4.5 out of 5 stars
New Balance	31	4.4 out of 5 stars
Skechers	30	4.5 out of 5 stars
Hey Dude	29	4.5 out of 5 stars
Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking Shoes	26	4.6 out of 5 stars

```
## 27    31 4.4 out of 5 stars
## 28    30 4.5 out of 5 stars
## 29    29 4.5 out of 5 stars
## 30    26 4.6 out of 5 stars
```

```
shoes_ranked %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")
```

```
head(pants_ranked, 30)
```

```
##
## 1
## 2
## 3
## 4
## 5
## 6
## 7
## 8
## 9
## 10
## 11
## 12
## 13
## 14
## 15
## 16
## 17 3 Pack Women's Wide Leg Pants with Pockets - Casual Loose Yoga Trouser Pants Sweatpants Palazzo L
```



```

## 18                                     Men's Heavyweight L
## 19
## 20                                     Men's Extreme Motion
## 21                                     Flare Leggings, Crossover Yoga Pants with Tummy Control, High-Wa
## 22
## 23                                     Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (R
## 24                                     ComfortSoft EcoSmart Men's
## 25
## 26
## 27                                     Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga L
## 28
## 29
## 30                                     Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout
##      Price      Ratings
## 1      199 4.4 out of 5 stars
## 2      168 4.4 out of 5 stars
## 3      146 4.5 out of 5 stars
## 4       41 4.5 out of 5 stars
## 5       36 4.3 out of 5 stars
## 6       32 4.5 out of 5 stars
## 7       32 4.3 out of 5 stars
## 8       30 4.3 out of 5 stars
## 9       28 4.3 out of 5 stars
## 10      27 4.6 out of 5 stars
## 11      26 4.6 out of 5 stars
## 12      25 4.4 out of 5 stars
## 13      24 4.4 out of 5 stars
## 14      23 4.6 out of 5 stars
## 15      23 4.6 out of 5 stars
## 16      23 4.5 out of 5 stars
## 17      21 4.4 out of 5 stars
## 18      20 4.3 out of 5 stars
## 19      19 4.5 out of 5 stars
## 20      19 4.4 out of 5 stars
## 21      18 4.6 out of 5 stars
## 22      18 4.3 out of 5 stars
## 23      17 4.4 out of 5 stars
## 24      17 4.3 out of 5 stars
## 25      12 4.7 out of 5 stars
## 26      12 4.5 out of 5 stars
## 27       9 4.4 out of 5 stars
## 28       8 4.5 out of 5 stars
## 29       8 4.3 out of 5 stars
## 30       4 4.4 out of 5 stars

```

```

pants_ranked %>%
  kable("latex", booktabs = TRUE) %>%
  kable_styling(latex_options = "scale_down")

```

High Price + High Rating: Products ranked at the top of each list with high prices and ratings are generally regarded as premium and popular choices within the category. Lower Price + High Rating: Products with lower prices but high ratings indicate affordable yet well-received options, highlighting value for money.

#ffdgbfhanafghrjfbfrfsjvbmsnfhdjsdg

nameofproduct..5..	Price	Ratings
Wrangler Authentics	199	4.4 out of 5 stars
Men's Relaxed Fit Stretch Cargo Pant	168	4.4 out of 5 stars
Amazon's Choice: Overall Pick	146	4.5 out of 5 stars
Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in Big & Tall)	41	4.5 out of 5 stars
3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Zipper Pockets	36	4.3 out of 5 stars
Men's Woven Vital Pants	32	4.5 out of 5 stars
Amazon Essentials	32	4.3 out of 5 stars
Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking, Breathable	30	4.3 out of 5 stars
TNNZEET	28	4.3 out of 5 stars
Lee	27	4.6 out of 5 stars
Pro Club	26	4.6 out of 5 stars
Hanes	25	4.4 out of 5 stars
Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pants for Men, 31"	24	4.4 out of 5 stars
Under Armour	23	4.6 out of 5 stars
Hanes	23	4.6 out of 5 stars
Ultra Performance	23	4.5 out of 5 stars
3 Pack Women's Wide Leg Pants with Pockets - Casual Loose Yoga Trouser Pants Sweatpants Palazzo Lounge Pajama Pants	21	4.4 out of 5 stars
Men's Heavyweight Fleece Cargo Pants	20	4.3 out of 5 stars
THE GYM PEOPLE	19	4.5 out of 5 stars
Men's Extreme Motion Canvas Cargo Pant	19	4.4 out of 5 stars
Flare Leggings, Crossover Yoga Pants with Tummy Control, High-Waisted and Wide Leg	18	4.6 out of 5 stars
G Gradual	18	4.3 out of 5 stars
Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Reg. or Big & Tall)	17	4.4 out of 5 stars
ComfortSoft EcoSmart Men's Fleece Sweatpants	17	4.3 out of 5 stars
Champion	12	4.7 out of 5 stars
Fruit of the Loom	12	4.5 out of 5 stars
Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings for Women	9	4.4 out of 5 stars
Champion	8	4.5 out of 5 stars
Sunzel	8	4.3 out of 5 stars
Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging, Running	4	4.4 out of 5 stars