

RWorksheet#5_group.Rmd

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IMDB

```
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
```

```
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=chttvtp_i_20",
"https://www.imdb.com/title/tt1877514/?ref=chttvtp_i_21",
"https://www.imdb.com/title/tt1475582/?ref=chttvtp_i_22",
"https://www.imdb.com/title/tt2560140/?ref=chttvtp_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))
for (i in seq_along(urls)) {

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

  webpage <- scrape(session)

  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

max_length <- max(length(rank), length(title), length(year), length(rating), length(episodes), length(vote))
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)))
max_length

## [1] 25

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

```

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

```
## 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
## 1 175
## 2 6
## 3 10
## 4 34
## 5 88
## 6 77
```

```
movies %>%
```

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

```
link2 = "https://www.imdb.com/title/tt0903747/reviews/?ref=tt_ov_ql_2"
```

```
page2 = read_html(link)
```

```
session2 <- bow(link, user_agent = "Educational")
session2
```

```
## <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
```

```

reviews <- page2 %>% html_nodes(".ipc-link--base") %>%
  html_text()
reviews

## [1] "Learn more about how list ranking is determined."

date <- page2 %>% html_nodes(".ipc-inline-list_item.review-date") %>%
  html_text()
date

## character(0)

user_rating <- page2 %>% html_nodes(".sc-a2ac93e5-4.gyib0i") %>%
  html_text()
user_rating

## character(0)

link1 = "https://www.imdb.com/chart/toptv/"
page1 = read_html(link)
session1 <- bow(link1, user_agent = "Educational")
session1

## <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

user_review = page %>% html_nodes(".score") %>% html_text()
user_review

## character(0)

library(ggplot2)

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)
```

AMAZON

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

```
library(polite)  
library(kableExtra)  
library(rmarkdown)  
library(httr)  
library(rvest)  
library(dplyr)  
library(stringr)  
library(ggplot2)
```

```
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

Age-R Booster Pro | 6-in-1 Real Glass Glow Device | Looking Glass Skin

Moisturizing Cream | Body and Face Moisturizer for Dry Skin | Body Cream with Hyal

Pimple Patches for Face, Hydrocolloid Acne Patches, Cute Star Zit Covers, C


```
## 14 Toleriane Double Repair Face Moisturizer | Da
## 15
## 16 Squeeze Me Lip Balm, Moisturiz
## 17
## 18 Collagen Jelly Cream- Niacinamide & Freeze-Dried Hydrolyzed Collagen - Boosts skin's l
## 19
## 20 Heartleaf Pore Control Cleans
## 21
## 22 Snail Mucin 92% Face Moisturizer, 3.52
## 23 Under Eye Patches, 40 Pairs Eye Mask for Dark Circles, Puffy Eyes, Undereye Bags,Wrinkles,Eye Mas
## 24
## 25 Facial Spr
## 26
## 27 Vitar
## 28 Under Eye Patches - 30 Pairs - 24K Gold Eye Mask- Puffy Ey
## 29
## 30
```

```
## 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
## 4 150. 4.7 out of 5 stars
## 5 17. 4.4 out of 5 stars
## 6 5. 4.6 out of 5 stars
## 7 23. 4.5 out of 5 stars
## 8 4. 4.3 out of 5 stars
## 9 12. 4.3 out of 5 stars
## 10 13. 4.5 out of 5 stars
## 11 12. 4.5 out of 5 stars
## 12 8. 4.5 out of 5 stars
## 13 5. 4.7 out of 5 stars
## 14 8. 4.6 out of 5 stars
## 15 6. 4.6 out of 5 stars
## 16 57. 4.5 out of 5 stars
## 17 7. 4.3 out of 5 stars
## 18 5. 4.3 out of 5 stars
## 19 11. 4.7 out of 5 stars
## 20 21. 4.6 out of 5 stars
## 21 8. 4.7 out of 5 stars
## 22 15. 4.7 out of 5 stars
## 23 15. 4.3 out of 5 stars
## 24 17. 4.5 out of 5 stars
## 25 14. 4.4 out of 5 stars
## 26 13. 4.6 out of 5 stars
## 27 4. 4.6 out of 5 stars
## 28 17. 4.3 out of 5 stars
## 29 12. 4.4 out of 5 stars
## 30 31. 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	150.	4.7 out of 5 stars
Bio-Collagen Real Deep Mask, Hydrating Overnight Hydrogel Mask, Pore Minimizing, Elasticity Improvement, 34g x4ea	17.	4.4 out of 5 stars
e.l.f.	5.	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	23.	4.5 out of 5 stars
Medicube	4.	4.3 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.	4.3 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.	4.5 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.	4.5 out of 5 stars
La Roche-Posay	5.	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	8.	4.6 out of 5 stars
e.l.f.	6.	4.6 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.	4.5 out of 5 stars
Medicube	7.	4.3 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.	4.3 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.	4.6 out of 5 stars
COSRX	8.	4.7 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.	4.7 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.	4.3 out of 5 stars
Mario Badescu	17.	4.5 out of 5 stars
Facial Spray with Aloe, Herbs and Rose Water for All Skin Types, Face Mist that Hydrates, Rejuvenates & Clarifies	14.	4.4 out of 5 stars
Tree Hut	13.	4.6 out of 5 stars
Vitamin C Shea Sugar Scrub, 18 oz. Ultra Hydrating and Exfoliating Scrub for Nourishing Essential Body Care	4.	4.6 out of 5 stars
Under Eye Patches - 30 Pairs - 24K Gold Eye Mask- Puffy Eyes & Dark Circles Treatments,Reduce Under Eye Bags and Smooth Wrinkles,Eye Skin Care Pads With Collagen	17.	4.3 out of 5 stars
TATCHA	12.	4.4 out of 5 stars
The Dewy Skin Cream: Rich Cream to Hydrate	31.	4.6 out of 5 stars

```

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

head(perfume, 30)

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

```

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

Color-Block Crossbo

Crossbody

Large Canvas Tote Bag for Wome

nameofproduct..2..	Price	Ratings
Amazon's Choice: Overall Pick	22.	4.4 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	13.	4.6 out of 5 stars
Victoria's Secret Bare Vanilla Body Mist, Body Spray for Women (8.4 oz)	78.	4.5 out of 5 stars
Versace Bright Crystal by Versace for Women 6.7 oz Eau de Toilette Spray	11.	4.4 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.	4.7 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	51.	4.5 out of 5 stars
Marc Jacobs Perfect for Women Eau de Parfum Spray, 1.6 Ounce	22.	4.6 out of 5 stars
Vera Wang Princess Eau de Toilette Spray for Women, Vanilla, 3.4 Fl Ounce	48.	4.3 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	16.	4.7 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	47.	4.6 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	117.	4.5 out of 5 stars
Valentino Valentino Donna Born In Roma EDP Spray Women 3.4 oz	87.	4.5 out of 5 stars
Marc Jacobs Perfect Eau de Parfum Spray for Women, 3.3 Ounce	23.	4.5 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	19.	4.5 out of 5 stars
Perfume High End Designer Fragrance Sampler Set for Women - (Pack of 12 Sample Vials)	53.	4.7 out of 5 stars
Versace Crystal Noir by Versace for Women - 3 Fl Oz EDT Spray	25.	4.3 out of 5 stars
Sol de Janeiro Hair & Body Fragrance Mist Travel Size 90mL/3.0 fl oz.	28.	4.6 out of 5 stars
Lattafa Perfumes Khamrah for Unisex Eau de Parfum Spray, 3.4 Ounce	15.	4.4 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.	4.5 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.	4.3 out of 5 stars
Victoria's Secret Tease Fine Fragrance 8.4oz Mist	24.	4.6 out of 5 stars
Lattafa Perfumes Asad for Unisex Eau de Parfum Spray, 3.4 Ounce	22.	4.6 out of 5 stars
Lattafa Yara Moi Eau de Parfum Spray for Women, 3.4 Ounce	20.	4.7 out of 5 stars
Victoria's Secret Bombshell Fine Fragrance 8.4oz Mist	18.	4.6 out of 5 stars
Victoria's Secret Mini Eau de Parfum Discovery Gift Set: Bombshell, Bombshell Magic, Tease, Bare, Very Sexy, & Heavenly	55.	4.4 out of 5 stars
Lattafa Rave Now Eau de Parfum Spray for Women, 3.4 Ounce	19.	4.7 out of 5 stars

12

13

14

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23

24

25 Travel Backpack for Women, Carry On Backpack with USB Charging Port & Shoe Pouch, TSA 15.6inch Laptop Bag

26

27

28

29

30

Price Ratings

1 26. 4.6 out of 5 stars

2 23. 4.6 out of 5 stars

3 57. 4.5 out of 5 stars

4 26. 4.4 out of 5 stars

5 23. 4.5 out of 5 stars

6 27. 4.6 out of 5 stars

7 19. 4.7 out of 5 stars

8 39. 4.7 out of 5 stars

9 99. 4.6 out of 5 stars

10 66. 4.6 out of 5 stars

11 67. 4.7 out of 5 stars

12 67. 4.3 out of 5 stars

13 21. 4.7 out of 5 stars

14 17. 4.5 out of 5 stars

Purses and Handbags

Small Sling Backpack Crossbody Bag

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	57.	4.5 out of 5 stars
BAGSMART	26.	4.4 out of 5 stars
Tote Bag for Women, Lightweight Puffy Tote Bag with Compartments, Quilted Shoulder Bag Handbag for Travel, Work	23.	4.5 out of 5 stars
TOP BAND	27.	4.6 out of 5 stars
Color-Block Crossbody Bags for Women Leather Cross Body Purses Cute Designer Handbags Shoulder Bag Medium Size	19.	4.7 out of 5 stars
BOSTANTEN	39.	4.7 out of 5 stars
Crossbody Bags for Women Trendy Vegan Leather Hobo Purses Shoulder Handbags With Wide Shoulder Strap	99.	4.6 out of 5 stars
ZHMO	66.	4.6 out of 5 stars
Large Canvas Tote Bag for Women,Womens Laptop Work Book Bags Crossbody Purse Handbag Shoulder Travel Messenger Gym Totes	67.	4.7 out of 5 stars
Montana West	67.	4.3 out of 5 stars
3PCS Purses and Handbags for Women Tote Purse and Wallet Set Shoulder Satchel Bag for Women	21.	4.7 out of 5 stars
Michael Kors	17.	4.5 out of 5 stars
Shoulder Bag, Electric Pink Multi	8.	4.6 out of 5 stars
Michael Kors	28.	4.7 out of 5 stars
Jet Set Travel Medium Logo Crossbody Bag	18.	4.5 out of 5 stars
Michael Kors	19.	4.4 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	12.	4.4 out of 5 stars
East West Chain, Brown	19.	4.3 out of 5 stars
LOVEVOOK	20.	4.7 out of 5 stars
Purses and Handbags for Women, Tote Shoulder Bag Satchel Black Purse and PU Leather Top Handle for ladies	16.	4.3 out of 5 stars
Taygeer	28.	4.4 out of 5 stars
Travel Backpack for Women, Carry On Backpack with USB Charging Port & Shoe Pouch, TSA 15.6inch Laptop Backpack Flight Approved, Nurse Bag Casual Daypack for Weekender Business Hiking, Pink	61.	4.7 out of 5 stars
Banelu	25.	4.5 out of 5 stars
Small Sling Backpack Crossbody Sling Bag, Chest Bag Daypack Fanny Pack Cross Body Bag for Outdoors Hiking Traveling	52.	4.6 out of 5 stars
Montana West	22.	4.6 out of 5 stars
Tote Bags for Women Medium Top Handle Handbags with Scarf	174.	4.6 out of 5 stars
BAGSMART	199.	4.4 out of 5 stars

```
## 15      8. 4.6 out of 5 stars
## 16     28. 4.7 out of 5 stars
## 17     18. 4.5 out of 5 stars
## 18     19. 4.4 out of 5 stars
## 19     31. 4.6 out of 5 stars
## 20     12. 4.4 out of 5 stars
## 21     19. 4.3 out of 5 stars
## 22     20. 4.7 out of 5 stars
## 23     16. 4.3 out of 5 stars
## 24     28. 4.4 out of 5 stars
## 25     61. 4.7 out of 5 stars
## 26     25. 4.5 out of 5 stars
## 27     52. 4.6 out of 5 stars
## 28     22. 4.6 out of 5 stars
## 29    174. 4.6 out of 5 stars
## 30    199. 4.4 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)
```

```
##                                nameofproduct.
## 1                                ad.
## 2      Men's Lite Racer Adapt 7.0 Sne
## 3      Amazon's Choice: Overall M
## 4                                Under Arm
## 5      Men's Charged Surge 4 Sne
## 6                                Hey M
## 7  HEYDUDE Wally Amazon Exclusive Styles, Men's Shoes, Men's Slip-on Loafers, Comfortable & Light-We
## 8                                New Bal
## 9      Men's 608 V5 Casual Comfort Cross Tra
```

## 10		Under Arm
## 11		Men's Charged Asser
## 12		
## 13		Women's Classic Mini II
## 14		ad
## 15		Men's Daily 4.0S
## 16		Skech
## 17		Women's Squad Sr Food Service
## 18		Bruno
## 19	Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking S	
## 20		Hey
## 21	Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-We	
## 22		ad
## 23		Men's Daily 3.0 Sne
## 24		Skech
## 25		Men's Go Walk Max Ef
## 26		Le
## 27		Men's Drive Lo Sne
## 28		Skech
## 29		Women's Summits Sne
## 30		New Bal

##	Price	Ratings
## 1	68.	4.3 out of 5 stars
## 2	68.	4.4 out of 5 stars
## 3	68.	4.7 out of 5 stars
## 4	39.	4.6 out of 5 stars
## 5	45.	4.5 out of 5 stars
## 6	38.	4.7 out of 5 stars
## 7	64.	4.6 out of 5 stars
## 8	50.	4.3 out of 5 stars
## 9	159.	4.6 out of 5 stars
## 10	48.	4.7 out of 5 stars
## 11	44.	4.7 out of 5 stars
## 12	31.	4.6 out of 5 stars
## 13	44.	4.4 out of 5 stars
## 14	49.	4.5 out of 5 stars
## 15	41.	4.5 out of 5 stars
## 16	27.	4.3 out of 5 stars
## 17	34.	4.6 out of 5 stars
## 18	64.	4.5 out of 5 stars
## 19	80.	4.6 out of 5 stars
## 20	84.	4.7 out of 5 stars
## 21	36.	4.6 out of 5 stars
## 22	59.	4.5 out of 5 stars
## 23	38.	4.4 out of 5 stars
## 24	49.	4.3 out of 5 stars
## 25	44.	4.5 out of 5 stars
## 26	179.	4.6 out of 5 stars
## 27	44.	4.4 out of 5 stars
## 28	40.	4.5 out of 5 stars
## 29	56.	4.5 out of 5 stars
## 30	119.	4.4 out of 5 stars

nameofproduct..4..	Price	Ratings
adidas	68.	4.3 out of 5 stars
Men's Lite Racer Adapt 7.0 Sneaker	68.	4.4 out of 5 stars
Amazon's Choice: Overall Pick	68.	4.7 out of 5 stars
Under Armour	39.	4.6 out of 5 stars
Men's Charged Surge 4 Sneaker	45.	4.5 out of 5 stars
Hey Dude	38.	4.7 out of 5 stars
HEYDUDE Wally Amazon Exclusive Styles, Men's Shoes, Men's Slip-on Loafers, Comfortable & Light-Weight	64.	4.6 out of 5 stars
New Balance	50.	4.3 out of 5 stars
Men's 608 V5 Casual Comfort Cross Trainer	159.	4.6 out of 5 stars
Under Armour	48.	4.7 out of 5 stars
Men's Charged Assert 10	44.	4.7 out of 5 stars
UGG	31.	4.6 out of 5 stars
Women's Classic Mini II Boot	44.	4.4 out of 5 stars
adidas	49.	4.5 out of 5 stars
Men's Daily 4.0 Shoes	41.	4.5 out of 5 stars
Skechers	27.	4.3 out of 5 stars
Women's Squad Sr Food Service Shoe	34.	4.6 out of 5 stars
Bruno Marc	64.	4.5 out of 5 stars
Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking Shoes	80.	4.6 out of 5 stars
Hey Dude	84.	4.7 out of 5 stars
Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight	36.	4.6 out of 5 stars
adidas	59.	4.5 out of 5 stars
Men's Daily 3.0 Sneaker	38.	4.4 out of 5 stars
Skechers	49.	4.3 out of 5 stars
Men's Go Walk Max Effort	44.	4.5 out of 5 stars
Levi's	179.	4.6 out of 5 stars
Men's Drive Lo Sneaker	44.	4.4 out of 5 stars
Skechers	40.	4.5 out of 5 stars
Women's Summits Sneaker	56.	4.5 out of 5 stars
New Balance	119.	4.4 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
## 2
## 3
## 4
## 5
## 6
## 7
## 8
## 9
## 10
## 11
## 12
## 13
## 14

```

name of product
 Amazon's Choice: Overall Pick
 Wrangler Authentics Men's Relaxed Fit Stretch Casual Pant
 Ultra Performance
 3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Zipper Pockets
 THE GYM Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings for Women
 Amazon Essentials Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in Big and Tall)
 ComfortSoft EcoSmart Men's Fleece Sweatpants
 G
 Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging, Running
 (

```
## 15           Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Reg. or Big
## 16
## 17           Men's Extreme Motion Canvas Ca
## 18           Fruit of
## 19           Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking, Br
## 20
## 21           Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pants for M
## 22           Under
## 23           Men's Woven Vita
## 24           I
## 25           Men's Heavyweight Fleece Carp
## 26           Wrangler Au
## 27           Authentics Men's Regular Fit Comfort Flex Wa
## 28
## 29           Flare Leggings, Crossover Yoga Pants with Tummy Control, High-Waisted and V
## 30
```

```
##      Price      Ratings
## 1      23. 4.5 out of 5 stars
## 2      36. 4.4 out of 5 stars
## 3      19. 4.4 out of 5 stars
## 4      19. 4.5 out of 5 stars
## 5       9. 4.3 out of 5 stars
## 6      25. 4.5 out of 5 stars
## 7      17. 4.4 out of 5 stars
## 8      18. 4.4 out of 5 stars
## 9       8. 4.3 out of 5 stars
## 10     17. 4.5 out of 5 stars
## 11     27. 4.6 out of 5 stars
## 12     41. 4.3 out of 5 stars
## 13     30. 4.4 out of 5 stars
## 14     19. 4.3 out of 5 stars
## 15     12. 4.5 out of 5 stars
## 16     24. 4.4 out of 5 stars
## 17     23. 4.5 out of 5 stars
## 18     12. 4.7 out of 5 stars
## 19     26. 4.6 out of 5 stars
## 20     18. 4.6 out of 5 stars
## 21     21. 4.4 out of 5 stars
## 22     23. 4.5 out of 5 stars
## 23     34. 4.5 out of 5 stars
## 24     14. 4.3 out of 5 stars
## 25     39. 4.5 out of 5 stars
## 26     49. 4.3 out of 5 stars
## 27     28. 4.3 out of 5 stars
## 28     28. 4.6 out of 5 stars
## 29     28. 4.3 out of 5 stars
## 30     39. 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,

nameofproduct..5..	Price	Ratings
Amazon's Choice: Overall Pick	23.	4.5 out of 5 stars
Wrangler Authentics	36.	4.4 out of 5 stars
Men's Relaxed Fit Stretch Cargo Pant	19.	4.4 out of 5 stars
Ultra Performance	19.	4.5 out of 5 stars
3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Zipper Pockets	9.	4.3 out of 5 stars
THE GYM PEOPLE	25.	4.5 out of 5 stars
Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings for Women	17.	4.4 out of 5 stars
Amazon Essentials	18.	4.4 out of 5 stars
Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in Big & Tall)	8.	4.3 out of 5 stars
Hanes	17.	4.5 out of 5 stars
ComfortSoft EcoSmart Men's Fleece Sweatpants	27.	4.6 out of 5 stars
G Gradual	41.	4.3 out of 5 stars
Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging, Running	30.	4.4 out of 5 stars
Champion	19.	4.3 out of 5 stars
Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Reg. or Big & Tall)	12.	4.5 out of 5 stars
Lee	24.	4.4 out of 5 stars
Men's Extreme Motion Canvas Cargo Pant	23.	4.5 out of 5 stars
Fruit of the Loom	12.	4.7 out of 5 stars
Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking, Breathable	26.	4.6 out of 5 stars
Champion	18.	4.6 out of 5 stars
Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pants for Men, 31"	21.	4.4 out of 5 stars
Under Armour	23.	4.5 out of 5 stars
Men's Woven Vital Pants	34.	4.5 out of 5 stars
Pro Club	14.	4.3 out of 5 stars
Men's Heavyweight Fleece Cargo Pants	39.	4.5 out of 5 stars
Wrangler Authentics	49.	4.3 out of 5 stars
Authentics Men's Regular Fit Comfort Flex Waist Jean	28.	4.3 out of 5 stars
Sunzel	28.	4.6 out of 5 stars
Flare Leggings, Crossover Yoga Pants with Tummy Control, High-Waisted and Wide Leg	28.	4.3 out of 5 stars
Hanes	39.	4.6 out of 5 stars

Shoes, and Pants. Here's an overview:

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:

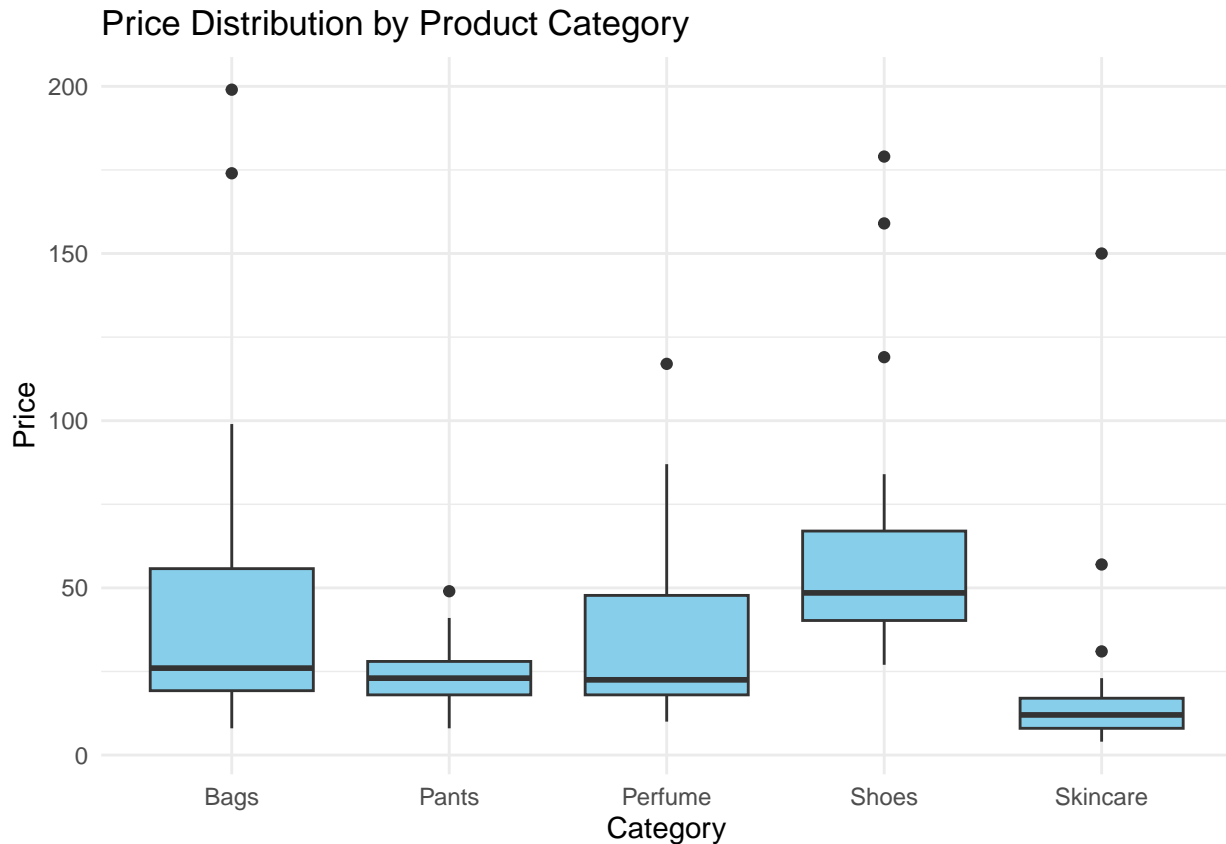
-Using the data to create visual insights for presentations or reports.

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.

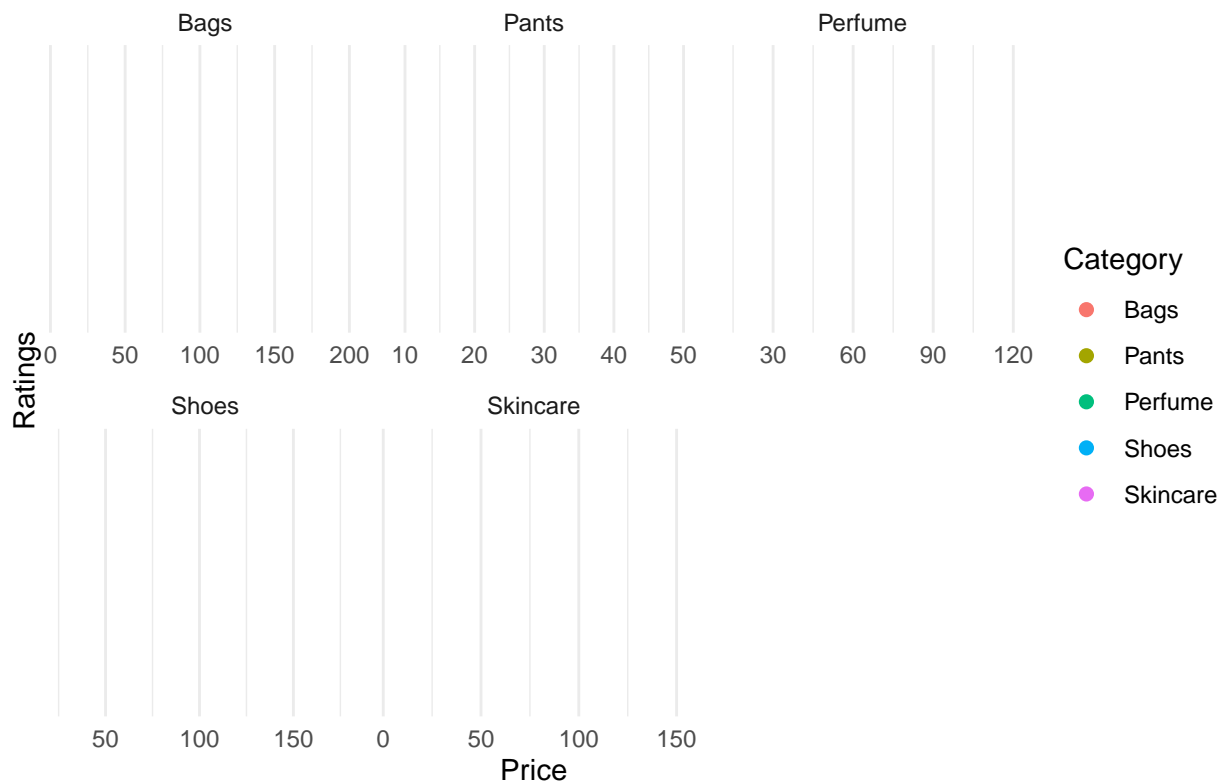
```
ggplot(all_data, aes(x = Price, y = as.numeric(Ratings))) +
  geom_point(aes(color = Category), size = 2) +
  labs(title = "Price vs Ratings by Category", x = "Price", y = "Ratings") +
  theme_minimal() +
  facet_wrap(~ Category, scales = "free")
```

```
## 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
## 2 Squeeze Me Lip Balm, Moisturizing Lip Balm
## 3
## 4 SKIN Hydrated Ever After Skincare Moisturizer
## 5 Heartleaf Pore Control Cleanser
## 6 Snail Mucin 96% Power Face Serum 3.38 fl oz
## 7
## 8 Bio-Collagen Eye Cream
## 9 Under Eye Patches - 30 Pairs - 24K Gold Eye Mask- Puffy Eyes
## 10 Snail Mucin 92% Face Moisturizer, 3.52 fl oz
## 11 Under Eye Patches, 40 Pairs Eye Mask for Dark Circles, Puffy Eyes, Undereye Bags,Wrinkles, Eye Mask
## 12 Facial Spray
## 13
## 14
## 15
## 16 Moisturizing Cream | Body and Face Moisturizer for Dry Skin | Body Cream with Hyaluronic Acid
## 17
## 18
## 19 Age-R Booster Pro | 6-in-1 Real Glass Glow Device | Looking Glass Skin
## 20
## 21
## 22 Toleriane Double Repair Face Moisturizer | Daily Hydration
## 23 Pimple Patches for Face, Hydrocolloid Acne Patches, Cute Star Zit Covers, 10 Patches
## 24
## 25
## 26
## 27
## 28 Collagen Jelly Cream- Niacinamide & Freeze-Dried Hydrolyzed Collagen - Boosts skin's elasticity
## 29 Vitamin C Serum
## 30
## Price Ratings
## 1 150 4.7 out of 5 stars
## 2 57 4.5 out of 5 stars
## 3 31 4.6 out of 5 stars
## 4 23 4.5 out of 5 stars
## 5 21 4.6 out of 5 stars
## 6 20 4.5 out of 5 stars
## 7 17 4.5 out of 5 stars
## 8 17 4.4 out of 5 stars
## 9 17 4.3 out of 5 stars
## 10 15 4.7 out of 5 stars
## 11 15 4.3 out of 5 stars
## 12 14 4.4 out of 5 stars
## 13 13 4.6 out of 5 stars
## 14 13 4.5 out of 5 stars
## 15 12 4.6 out of 5 stars
## 16 12 4.5 out of 5 stars
```

nameofproduct..1..	Price	Ratings
BIODANCE	150	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	4.5 out of 5 stars
The Dewy Skin Cream: Rich Cream to Hydrate	31	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	23	4.5 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	4.6 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	4.5 out of 5 stars
Bio-Collagen Real Deep Mask, Hydrating Overnight Hydrogel Mask, Pore Minimizing, Elasticity Improvement, 34g x4ea	17	4.4 out of 5 stars
Under Eye Patches - 30 Pairs - 24K Gold Eye Mask- Puffy Eyes & Dark Circles Treatments,Reduce Under Eye Bags and Smooth Wrinkles,Eye Skin Care Pads With Collagen	17	4.3 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	4.7 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	4.3 out of 5 stars
Facial Spray with Aloe, Herbs and Rose Water for All Skin Types, Face Mist that Hydrates, Rejuvenates & Clarifies	14	4.4 out of 5 stars
Tree Hut	13	4.6 out of 5 stars
CeraVe	13	4.5 out of 5 stars
Amazon's Choice: Overall Pick	12	4.6 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	4.5 out of 5 stars
TATCHA	12	4.4 out of 5 stars
COSRX	12	4.3 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	4.3 out of 5 stars
ANUA	11	4.7 out of 5 stars
COSRX	8	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	8	4.6 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	4.5 out of 5 stars
Medicube	7	4.3 out of 5 stars
e.l.f.	6	4.6 out of 5 stars
La Roche-Posay	5	4.7 out of 5 stars
e.l.f.	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	4.3 out of 5 stars
Vitamin C Shea Sugar Scrub, 18 oz, Ultra Hydrating and Exfoliating Scrub for Nourishing Essential Body Care	4	4.6 out of 5 stars
Medicube	4	4.3 out of 5 stars

```
## 17      12 4.4 out of 5 stars
## 18      12 4.3 out of 5 stars
## 19      12 4.3 out of 5 stars
## 20      11 4.7 out of 5 stars
## 21       8 4.7 out of 5 stars
## 22       8 4.6 out of 5 stars
## 23       8 4.5 out of 5 stars
## 24       7 4.3 out of 5 stars
## 25       6 4.6 out of 5 stars
## 26       5 4.7 out of 5 stars
## 27       5 4.6 out of 5 stars
## 28       5 4.3 out of 5 stars
## 29       4 4.6 out of 5 stars
## 30       4 4.3 out of 5 stars
```

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

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

```
##
## 1      Billie Eilish Eau de Parfum Perfume for Women, Notes of Sugared Petals, Vanilla & Mus
## 2
## 3
## 4      Victoria's Secret Mini Eau de Parfum Discovery Gift Set: Notes of Purple Passion Fruit, Shangri-La Peon
## 5      Victoria's Secret Mini Eau de Parfum Discovery Gift Set: Notes of Purple Passion Fruit, Shangri-La Peon
## 6      Victoria's Secret Mini Eau de Parfum Discovery Gift Set: Notes of Purple Passion Fruit, Shangri-La Peon
## 7      Victoria's Secret Mini Eau de Parfum Discovery Gift Set: Notes of Purple Passion Fruit, Shangri-La Peon
## 8      Vera Wang Pearl Blossom Eau de Parfum for Women - Delicate, Floral Scent - Notes of Purple Passion Fruit, Shangri-La Peon
## 9      Ed Hardy Women's Perfume - Notes of Purple Passion Fruit, Shangri-La Peon
## 10     Vera Wang Eau de Parfum for Women - Delicate, Floral Scent - Notes of Purple Passion Fruit, Shangri-La Peon
## 11     Sol de Janeiro Bum Bum Cream - Notes of Purple Passion Fruit, Shangri-La Peon
## 12     Victoria's Secret Bombshell Mini Fragrance Mist, Notes of Purple Passion Fruit, Shangri-La Peon
## 13
## 14
## 15
## 16
```

```

## 17
## 18
## 19
## 20
## 21 Swiss Arabian Layali Rouge - Luxury Arabian Perfume Oil from Dubai - Long Lasting Arabian Perfume
## 22 KHADLAJ PERFUMES Hareem
## 23
## 24 Bodycology Lon
## 25 Ariana Grande Cloud Eau de Parfum - Warm Gourmand Fragrance for Women -
Women's Perfume with Notes of Lavender, Coconut, Vanilla & Pear
## 26 Latt
## 27
## 28
## 29 Versace Br
## 30 L
##      Price      Ratings
## 1      117 4.5 out of 5 stars
## 2       87 4.5 out of 5 stars
## 3       78 4.5 out of 5 stars
## 4       55 4.5 out of 5 stars
## 5       55 4.4 out of 5 stars
## 6       53 4.7 out of 5 stars
## 7       51 4.5 out of 5 stars
## 8       48 4.3 out of 5 stars
## 9       47 4.6 out of 5 stars
## 10      45 4.6 out of 5 stars
## 11      28 4.6 out of 5 stars
## 12      26 4.7 out of 5 stars
## 13      25 4.3 out of 5 stars
## 14      24 4.6 out of 5 stars
## 15      23 4.5 out of 5 stars
## 16      22 4.6 out of 5 stars
## 17      22 4.6 out of 5 stars
## 18      22 4.4 out of 5 stars
## 19      20 4.7 out of 5 stars
## 20      19 4.7 out of 5 stars
## 21      19 4.5 out of 5 stars
## 22      18 4.6 out of 5 stars
## 23      18 4.6 out of 5 stars
## 24      18 4.3 out of 5 stars
## 25      16 4.7 out of 5 stars
## 26      15 4.4 out of 5 stars
## 27      13 4.6 out of 5 stars
## 28      11 4.5 out of 5 stars
## 29      11 4.4 out of 5 stars
## 30      10 4.6 out of 5 stars

```

```

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

```

```

head(bags_ranked, 30)

```

```

##
## 1

```

nameofproduct..2..	Price	Ratings
Billie Eilish Eau de Parfum Perfume for Women, Notes of Sugared Petals, Vanilla & Musk, Amber Gourmand + Woody Floral Fragrance, Long Lasting Scent	117	4.5 out of 5 stars
Valentino Valentino Donna Born In Roma EDP Spray Women 3.4 oz	87	4.5 out of 5 stars
Victoria's Secret Bare Vanilla Body Mist, Body Spray for Women (8.4 oz)	78	4.5 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	4.5 out of 5 stars
Victoria's Secret Mini Eau de Parfum Discovery Gift Set: Bombshell, Bombshell Magic, Tease, Bare, Very Sexy, & Heavenly	55	4.4 out of 5 stars
Perfume High End Designer Fragrance Sampler Set for Women - (Pack of 12 Sample Vials)	53	4.7 out of 5 stars
Daisy By Marc Jacobs for Women Eau De Toilette Spray, 1.7 Fl Oz	51	4.5 out of 5 stars
Vera Wang Princess Eau de Toilette Spray for Women, Vanilla, 3.4 Fl Ounce	48	4.3 out of 5 stars
Ed Hardy Women's Perfume Fragrance by Christian Audigier, Eau De Parfum, 3.4 Fl Oz	47	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
Sol de Janeiro Hair & Body Fragrance Mist Travel Size 90mL/3.0 fl oz.	28	4.6 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	4.7 out of 5 stars
Versace Crystal Noir by Versace for Women - 3 Fl Oz EDT Spray	25	4.3 out of 5 stars
Victoria's Secret Tease Fine Fragrance 8.4oz Mist	24	4.6 out of 5 stars
Marc Jacobs Perfect Eau de Parfum Spray for Women, 3.3 Ounce	23	4.5 out of 5 stars
Marc Jacobs Perfect for Women Eau de Parfum Spray, 1.6 Ounce	22	4.6 out of 5 stars
Lattafa Perfumes Asad for Unisex Eau de Parfum Spray, 3.4 Ounce	22	4.6 out of 5 stars
Amazon's Choice: Overall Pick	22	4.4 out of 5 stars
Lattafa Yara Moi Eau de Parfum Spray for Women, 3.4 Ounce	20	4.7 out of 5 stars
Lattafa Rave Now Eau de Parfum Spray for Women, 3.4 Ounce	19	4.7 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	19	4.5 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
Victoria's Secret Bombshell Fine Fragrance 8.4oz Mist	18	4.6 out of 5 stars
Bodycology Long-Lasting Fragrance Body Mist, Strawberry Cheesecake, 8 fl oz	18	4.3 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	16	4.7 out of 5 stars
Lattafa Perfumes Khamrah for Unisex Eau de Parfum Spray, 3.4 Ounce	15	4.4 out of 5 stars
Al-Rehab Choco Musk Eau de Parfum Spray for Women, 1.7 Ounce	13	4.6 out of 5 stars
Floral Eau De Parfum	11	4.5 out of 5 stars
Versace Bright Crystal by Versace for Women 6.7 oz Eau de Toilette Spray	11	4.4 out of 5 stars
Lattafa Yara for Women Eau de Parfum Spray, 3.40 Ounce / 100 ml	10	4.6 out of 5 stars

2

3

4

5

6

7 Travel Backpack for Women, Carry On Backpack with USB Charging Port & Shoe Pouch, TSA 15.6inch Laptop Compartment

8

9 Small Sling Backpack Crossbody Bag for Women, 15.5inch Laptop Compartment

10

11

12

13

14

15

16

17

18

19 Tote Bag for Women, 15.5inch Laptop Compartment

20

21

22

23 Color-Block Crossbody Bag for Women, 15.5inch Laptop Compartment

24

25

26

27

28 Purses and Handbags

29

30

Price Ratings

1 199 4.4 out of 5 stars

2 174 4.6 out of 5 stars

3 99 4.6 out of 5 stars

4 67 4.7 out of 5 stars

nameofproduct..3.	Price	Ratings
BAGSMART	199	4.4 out of 5 stars
Tote Bags for Women Medium Top Handle Handbags with Scarf	174	4.6 out of 5 stars
Crossbody Bags for Women Trendy Vegan Leather Hobo Purses Shoulder Handbags With Wide Shoulder Strap	99	4.6 out of 5 stars
Large Canvas Tote Bag for Women,Womens Laptop Work Book Bags Crossbody Purse Handbag Shoulder Travel Messenger Gym Totes	67	4.7 out of 5 stars
Montana West	67	4.3 out of 5 stars
ZHMO	66	4.6 out of 5 stars
Travel Backpack for Women, Carry On Backpack with USB Charging Port & Shoe Pouch, TSA 15.6inch Laptop Backpack Flight Approved, Nurse Bag Casual Daypack for Weekender Business Hiking, Pink	61	4.7 out of 5 stars
(Crossbody	57	4.5 out of 5 stars
Small Sling Backpack Crossbody Sling Bag, Chest Bag Daypack Fanny Pack Cross Body Bag for Outdoors Hiking Traveling	52	4.6 out of 5 stars
BOSTANTEN	39	4.7 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	28	4.7 out of 5 stars
Tuygeer	28	4.4 out of 5 stars
TOP BAND	27	4.6 out of 5 stars
Amazon's Choice: Overall Pick	26	4.6 out of 5 stars
BAGSMART	26	4.4 out of 5 stars
Banehu	25	4.5 out of 5 stars
Michael Kors	23	4.6 out of 5 stars
Tote Bag for Women, Lightweight Puffy Tote Bag with Compartments, Quilted Shoulder Bag Handbag for Travel, Work	23	4.5 out of 5 stars
Montana West	22	4.6 out of 5 stars
3PCS Purses and Handbags for Women Tote Purse and Wallet Set Shoulder Satchel Bag for Women	21	4.7 out of 5 stars
LOVEVOOK	20	4.7 out of 5 stars
Color-Block Crossbody Bags for Women Leather Cross Body Purses Cute Designer Handbags Shoulder Bag Medium Size	19	4.7 out of 5 stars
Michael Kors	19	4.4 out of 5 stars
East West Chain, Brown	19	4.3 out of 5 stars
Jet Set Travel Medium Logo Crossbody Bag	18	4.5 out of 5 stars
Michael Kors	17	4.5 out of 5 stars
Purses and Handbags for Women, Tote Shoulder Bag Satchel Black Purse and PU Leather Top Handle for Ladies	16	4.3 out of 5 stars
Michael Kors	12	4.4 out of 5 stars
Shoulder Bag, Electric Pink Multi	8	4.6 out of 5 stars

```
## 5      67 4.3 out of 5 stars
## 6      66 4.6 out of 5 stars
## 7      61 4.7 out of 5 stars
## 8      57 4.5 out of 5 stars
## 9      52 4.6 out of 5 stars
## 10     39 4.7 out of 5 stars
## 11     31 4.6 out of 5 stars
## 12     28 4.7 out of 5 stars
## 13     28 4.4 out of 5 stars
## 14     27 4.6 out of 5 stars
## 15     26 4.6 out of 5 stars
## 16     26 4.4 out of 5 stars
## 17     25 4.5 out of 5 stars
## 18     23 4.6 out of 5 stars
## 19     23 4.5 out of 5 stars
## 20     22 4.6 out of 5 stars
## 21     21 4.7 out of 5 stars
## 22     20 4.7 out of 5 stars
## 23     19 4.7 out of 5 stars
## 24     19 4.4 out of 5 stars
## 25     19 4.3 out of 5 stars
## 26     18 4.5 out of 5 stars
## 27     17 4.5 out of 5 stars
## 28     16 4.3 out of 5 stars
## 29     12 4.4 out of 5 stars
## 30      8 4.6 out of 5 stars
```

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

head(shoes_ranked, 30)
```

```
##
## 1
## 2
## 3
## 4
```

nameofproduct.
 Lev
 Men's 608 V5 Casual Comfort Cross Tra
 New Bal
 Hey I

## 5	Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking Sneakers
## 6	Amazon's Choice: Overall Best Men's Sneakers
## 7	Men's Lite Racer Adapt 7.0 Sneakers
## 8	adidas Men's Lite Racer Adapt 7.0 Sneakers
## 9	HEYDUDE Wally Amazon Exclusive Styles, Men's Shoes, Men's Slip-on Loafers, Comfortable & Light-Weight
## 10	Bruno Magli Men's Slip-on Loafers
## 11	adidas Men's Lite Racer Adapt 7.0 Sneakers
## 12	Women's Summits Sneakers
## 13	New Balance Women's Summits Sneakers
## 14	adidas Men's Lite Racer Adapt 7.0 Sneakers
## 15	Skechers Men's Lite Racer Adapt 7.0 Sneakers
## 16	Under Armour Men's Charged Surge 4 Sneakers
## 17	Men's Charged Surge 4 Sneakers
## 18	Men's Charged Asser Sneakers
## 19	Men's Go Walk Max Effort Sneakers
## 20	Women's Classic Mini II Sneakers
## 21	Men's Drive Lo Sneakers
## 22	Men's Daily 4.0 Sneakers
## 23	Skechers Men's Daily 4.0 Sneakers
## 24	Under Armour Men's Charged Surge 4 Sneakers
## 25	Hey Dude Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight
## 26	Men's Daily 3.0 Sneakers
## 27	Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight
## 28	Women's Squad Sr Food Service Sneakers
## 29	
## 30	Skechers Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight
##	Price Ratings
## 1	179 4.6 out of 5 stars
## 2	159 4.6 out of 5 stars
## 3	119 4.4 out of 5 stars
## 4	84 4.7 out of 5 stars
## 5	80 4.6 out of 5 stars
## 6	68 4.7 out of 5 stars
## 7	68 4.4 out of 5 stars
## 8	68 4.3 out of 5 stars
## 9	64 4.6 out of 5 stars
## 10	64 4.5 out of 5 stars
## 11	59 4.5 out of 5 stars
## 12	56 4.5 out of 5 stars
## 13	50 4.3 out of 5 stars
## 14	49 4.5 out of 5 stars
## 15	49 4.3 out of 5 stars
## 16	48 4.7 out of 5 stars
## 17	45 4.5 out of 5 stars
## 18	44 4.7 out of 5 stars
## 19	44 4.5 out of 5 stars
## 20	44 4.4 out of 5 stars
## 21	44 4.4 out of 5 stars
## 22	41 4.5 out of 5 stars
## 23	40 4.5 out of 5 stars
## 24	39 4.6 out of 5 stars
## 25	38 4.7 out of 5 stars
## 26	38 4.4 out of 5 stars
## 27	36 4.6 out of 5 stars

nameofproduct..4..	Price	Ratings
Levi's	179	4.6 out of 5 stars
Men's 608 V5 Casual Comfort Cross Trainer	159	4.6 out of 5 stars
New Balance	119	4.4 out of 5 stars
Hey Dude	84	4.7 out of 5 stars
Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking Shoes	80	4.6 out of 5 stars
Amazon's Choice: Overall Pick	68	4.7 out of 5 stars
Men's Lite Racer Adapt 7.0 Sneaker	68	4.4 out of 5 stars
adidas	68	4.3 out of 5 stars
HEYDUDE Wally Amazon Exclusive Styles, Men's Shoes, Men's Slip-on Loafers, Comfortable & Light-Weight	64	4.6 out of 5 stars
Bruno Marc	64	4.5 out of 5 stars
adidas	59	4.5 out of 5 stars
Women's Summits Sneaker	56	4.5 out of 5 stars
New Balance	50	4.3 out of 5 stars
adidas	49	4.5 out of 5 stars
Skechers	49	4.3 out of 5 stars
Under Armour	48	4.7 out of 5 stars
Men's Charged Surge 4 Sneaker	45	4.5 out of 5 stars
Men's Charged Assert 10	44	4.7 out of 5 stars
Men's Go Walk Max Effort	44	4.5 out of 5 stars
Women's Classic Mini II Boot	44	4.4 out of 5 stars
Men's Drive Lo Sneaker	44	4.4 out of 5 stars
Men's Daily 4.0 Shoes	41	4.5 out of 5 stars
Skechers	40	4.5 out of 5 stars
Under Armour	39	4.6 out of 5 stars
Hey Dude	38	4.7 out of 5 stars
Men's Daily 3.0 Sneaker	38	4.4 out of 5 stars
Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight	36	4.6 out of 5 stars
Women's Squad Sr Food Service Shoe	34	4.6 out of 5 stars
UGG	31	4.6 out of 5 stars
Skechers	27	4.3 out of 5 stars

```
## 28    34 4.6 out of 5 stars
## 29    31 4.6 out of 5 stars
## 30    27 4.3 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 Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging,
## 8
## 9
## 10 Flare Leggings, Crossover Yoga Pants with Tummy Control, High-Waisted and V
## 11
## 12 Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking, Br
## 13
## 14
## 15
## 16
```

```

## 17
## 18
## 19
## 20
## 21
## 22
## 23
## 24
## 25
## 26
## 27
## 28
## 29
## 30
##      Price      Ratings
## 1      49 4.3 out of 5 stars
## 2      41 4.3 out of 5 stars
## 3      39 4.6 out of 5 stars
## 4      39 4.5 out of 5 stars
## 5      36 4.4 out of 5 stars
## 6      34 4.5 out of 5 stars
## 7      30 4.4 out of 5 stars
## 8      28 4.6 out of 5 stars
## 9      28 4.3 out of 5 stars
## 10     28 4.3 out of 5 stars
## 11     27 4.6 out of 5 stars
## 12     26 4.6 out of 5 stars
## 13     25 4.5 out of 5 stars
## 14     24 4.4 out of 5 stars
## 15     23 4.5 out of 5 stars
## 16     23 4.5 out of 5 stars
## 17     23 4.5 out of 5 stars
## 18     21 4.4 out of 5 stars
## 19     19 4.5 out of 5 stars
## 20     19 4.4 out of 5 stars
## 21     19 4.3 out of 5 stars
## 22     18 4.6 out of 5 stars
## 23     18 4.4 out of 5 stars
## 24     17 4.5 out of 5 stars
## 25     17 4.4 out of 5 stars
## 26     14 4.3 out of 5 stars
## 27     12 4.7 out of 5 stars
## 28     12 4.5 out of 5 stars
## 29      9 4.3 out of 5 stars
## 30      8 4.3 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.

#done

nameofproduct..5..	Price	Ratings
Wrangler Authentics	49	4.3 out of 5 stars
G Gradual	41	4.3 out of 5 stars
Hanes	39	4.6 out of 5 stars
Men's Heavyweight Fleece Cargo Pants	39	4.5 out of 5 stars
Wrangler Authentics	36	4.4 out of 5 stars
Men's Woven Vital Pants	34	4.5 out of 5 stars
Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging, Running	30	4.4 out of 5 stars
Sunzel	28	4.6 out of 5 stars
Authentic Men's Regular Fit Comfort Flex Waist Jean	28	4.3 out of 5 stars
Flare Leggings, Crossover Yoga Pants with Tummy Control, High-Waisted and Wide Leg	28	4.3 out of 5 stars
ComfortSoft EcoSmart Men's Fleece Sweatpants	27	4.6 out of 5 stars
Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking, Breathable	26	4.6 out of 5 stars
THE GYM PEOPLE	25	4.5 out of 5 stars
Lee	24	4.4 out of 5 stars
Amazon's Choice: Overall Pick	23	4.5 out of 5 stars
Men's Extreme Motion Canvas Cargo Pant	23	4.5 out of 5 stars
Under Armour	23	4.5 out of 5 stars
Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pants for Men, 31"	21	4.4 out of 5 stars
Ultra Performance	19	4.5 out of 5 stars
Men's Relaxed Fit Stretch Cargo Pant	19	4.4 out of 5 stars
Champion	19	4.3 out of 5 stars
Champion	18	4.6 out of 5 stars
Amazon Essentials	18	4.4 out of 5 stars
Hanes	17	4.5 out of 5 stars
Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings for Women	17	4.4 out of 5 stars
Pro Club	14	4.3 out of 5 stars
Fruit of the Loom	12	4.7 out of 5 stars
Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Reg. or Big & Tall)	12	4.5 out of 5 stars
3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Zipper Pockets	9	4.3 out of 5 stars
Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in Big & Tall)	8	4.3 out of 5 stars