

RWorksheet#5_group.Rmd

Baylon_Calvario_Calzado

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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)
```

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

## The following object is masked from 'package:kableExtra':
##
##   group_rows

## 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(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                               Snail Mucin 96% Power Face Serum 3.38 fl oz 100ml, Hy
## 3
## 4
## 5                               SKIN Hydrated Ever After Skincare Mini Kit, Cl
## 6
## 7                               SKIN PERFECTING 2% BHA Liquid Sali
## 8
## 9    Moisturizing Cream | Body and Face Moisturizer for Dry Skin | Body Cream with Hyaluronic Acid
## 10
## 11                               Bio-Collagen Real Deep
## 12
## 13    Toleriane Double Repair Face Moisturizer | Daily Moisturi
## 14
## 15                               Squeeze Me Lip Balm, Moisturizing Lip Bal
## 16
## 17                               Facial Spray with Aloe
## 18    Under Eye Patches - 30 Pairs - 24K Gold Eye Mask- Puffy Eyes & Dark Ci
## 19    Pimple Patches for Face, Hydrocolloid Acne Patches, Cute Star Zit Covers, Colorful Spo
## 20
## 21                               Lip Sleepin
## 22
## 23    Toleriane Hydrating Gentle Face Cleanser | Hydrating Facial Cleanser With Niacinamide + Ceram
## 24

```

```
## 25 Hydrating Facial Cleanser | Moisturizing Face Wash For Dry Skin | Hyaluronic Acid + Ceramides + G
## 26
## 27 Vitamin C Shea S
## 28
## 29 Makeup Headbands, 1pcs Black Spa Headband Fluffy Bow Tie Headband Microfiber F
## 30
## Price Ratings
## 1 19. 4.6 out of 5 stars
## 2 19. 4.5 out of 5 stars
## 3 35. 4.5 out of 5 stars
## 4 17. 4.7 out of 5 stars
## 5 19. 4.3 out of 5 stars
## 6 23. 4.6 out of 5 stars
## 7 4. 4.5 out of 5 stars
## 8 5. 4.5 out of 5 stars
## 9 8. 4.4 out of 5 stars
## 10 9. 4.6 out of 5 stars
## 11 21. 4.6 out of 5 stars
## 12 17. 4.7 out of 5 stars
## 13 15. 4.7 out of 5 stars
## 14 8. 4.5 out of 5 stars
## 15 5. 4.7 out of 5 stars
## 16 8. 4.7 out of 5 stars
## 17 5. 4.7 out of 5 stars
## 18 17. 4.6 out of 5 stars
## 19 5. 4.7 out of 5 stars
## 20 16. 4.5 out of 5 stars
## 21 18. 4.5 out of 5 stars
## 22 15. 4.6 out of 5 stars
## 23 4. 4.5 out of 5 stars
## 24 18. 4.5 out of 5 stars
## 25 14. 4.3 out of 5 stars
## 26 13. 4.7 out of 5 stars
## 27 8. 4.3 out of 5 stars
## 28 17. 4.6 out of 5 stars
## 29 17. 4.6 out of 5 stars
## 30 22. 4.3 out of 5 stars
```

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

```
perfume <- data.frame(nameofproduct[[2]],
                      Price = price[[2]],
                      Ratings = Ratings[[2]],
                      stringsAsFactors = FALSE
)
head(perfume, 30)
```

```
##
## 1 Lake & Sky
## 2 Le
## 3 Brazilian Summertime Eau de Parfum for W
## 4
## 5
```

nameofproduct..1..	Price	Ratings
COSRX	19.	4.6 out of 5 stars
Saai 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	19.	4.5 out of 5 stars
Amazon's Choice: Overall Pick	35.	4.5 out of 5 stars
e.l.f.	17.	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	19.	4.3 out of 5 stars
Paula's Choice	23.	4.6 out of 5 stars
SKIN PERFECTING 2% BHA Liquid Salicylic Acid Exfoliant-Facial Exfoliant for Blackheads, Enlarged Pores, Wrinkles & Fine Lines	4.	4.5 out of 5 stars
CeraVe	5.	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	8.	4.4 out of 5 stars
BIODANCE	9.	4.6 out of 5 stars
Bio-Collagen Real Deep Mask, Hydrating Overnight Hydrogel Mask, Pore Minimizing, Elasticity Improvement, 34g x4ea	21.	4.6 out of 5 stars
La Roche-Posay	17.	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	15.	4.7 out of 5 stars
e.l.f.	8.	4.5 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	5.	4.7 out of 5 stars
Mario Badescu	8.	4.7 out of 5 stars
Facial Spray with Aloe, Herbs and Rose Water for All Skin Types, Face Mist that Hydrates, Rejuvenates & Clarifies	5.	4.7 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.	4.6 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	5.	4.7 out of 5 stars
LANEIGE	16.	4.5 out of 5 stars
Lip Sleeping Mask: Nourish, Hydrate, Vitamin C, Murumuru & Shea Butter, Antioxidants, Flaky, Dry Lips	18.	4.5 out of 5 stars
La Roche-Posay	15.	4.6 out of 5 stars
Toleriane Hydrating Gentle Face Cleanser Hydrating Facial Cleanser With Niacinamide + Ceramides Daily Face Wash For Dry Skin To Normal Skin Sensitive Skin Tested Fragrance Free	4.	4.5 out of 5 stars
CeraVe	18.	4.5 out of 5 stars
Hydrating Facial Cleanser Moisturizing Face Wash For Dry Skin Hyaluronic Acid + Ceramides + Glycerin Hydrating Cleanser For Normal To Dry Skin National Eczema Association Certified	14.	4.3 out of 5 stars
Tree Hut	13.	4.7 out of 5 stars
Vitamin C Shea Sugar Scrub, 18 oz, Ultra Hydrating and Exfoliating Scrub for Nourishing Essential Body Care	8.	4.3 out of 5 stars
WSYUB	17.	4.6 out of 5 stars
Makeup Headbands, 1pcs Black Spa Headband Fluffy Bow Tie Headband Microfiber Face Headband, and 2Pcs Wrist Spa Wash Band Absorbent Wristbands, for Washing Face Skin Care	17.	4.6 out of 5 stars
eos	22.	4.3 out of 5 stars

6

7

8

Billie Eilish Eau de Parfum Spray Perfume for Women

9

10

11

Vera Wang Eau de Parfum for Women

12

Dossier - Eau de Parfum - Ambery Cherry - Inspired by T.Ford Lost Cherry - Perfume

13

Dossier - Woody Oakmoss - Eau de Parfum - Inspired by C. Coco Mademoiselle

14

Valentine for Men EDP 3.4 fl Oz- Top Notes of Woody & Outdoor of Sweet Myrtle & Zesty Bergamot

15

Dossier - Gourmand White Flowers - Eau de Parfum - Inspired by Viktor&Rolf's Flowerbomb

16

17

Victoria's Secret Bombshell Mini Fragrance Mist, Notes of

18

19

20

Victoria's Secret Tease Sugar

21

Dossier - Eau de Parfum - Floral Marshmallow - Inspired by By Kilian's Love,Don't Be Shy - Perfume

22

Calvin Klein My Euphoria Eau de Parfum - Women's Ambery Floral Perfume - With Notes of Blackcurrant

Luxury Perfumes for Women- Long Lasting Fragrance

23

24

25

26

Ariana Grande Cloud Eau de Parfum

Warm Gourmand Fragrance for Women - Women's Perfume with Notes of Lavender, Coconut, Vanilla & Pear

27

28

29

30

Price Ratings

1 36. 4.5 out of 5 stars

2 25. 4.4 out of 5 stars

3 24. 4.6 out of 5 stars

4 25. 4.5 out of 5 stars

5 24. 4.5 out of 5 stars

6 21. 4.4 out of 5 stars

7 8. 4.6 out of 5 stars

8 52. 4.5 out of 5 stars

nameofproduct.2.	Price	Ratings
Lake & Skye 11 11 Eau de Parfum Travel Spray, Long Lasting Fragrance, 0.5 fl oz (15 ml) - Sheer & Uplifting Scent	36.	4.5 out of 5 stars
Le Monde Gourmand Latte D'or Eau de Parfum - 1 fl oz (30 ml) - Coconut, Warm, Spicy, Ginger Perfume Notes	25.	4.4 out of 5 stars
Brazilian Summertime Eau de Parfum for Women, Notes of Pistachio & Lemon, Safe for Sensitive Skin, Luxury Fragrance By Modern Memory, 2.5 fl oz	24.	4.6 out of 5 stars
Sol de Janeiro Hair & Body Fragrance Mist Travel Size 90mL/3.0 fl oz.	25.	4.5 out of 5 stars
Amazon's Choice: Overall Pick	24.	4.5 out of 5 stars
Lattafa Yara for Women Eau de Parfum Spray, 3.40 Ounce / 100 ml	21.	4.4 out of 5 stars
Al-Rehab Choco Musk Eau de Parfum Spray for Women, 1.7 Ounce	8.	4.6 out of 5 stars
Billie Eilish Eau de Parfum Spray Perfume for Women, Notes of Sugared Petals, Vanilla & Warm Musk, Amber Gourmand Fragrance, Long Lasting, Everyday Scent	52.	4.5 out of 5 stars
Lattafa Perfumes Khamrah for Unisex Eau de Parfum Spray, 3.4 Ounce	28.	4.4 out of 5 stars
Sol de Janeiro Hair & Body Fragrance Mist Travel Size 90mL/3.0 fl oz.	25.	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	27.	4.6 out of 5 stars
Dossier - Eau de Parfum - Ambery Cherry - Inspired by T.Ford Lost Cherry - Perfume Luxury - Pure Infused - Paraben Free - Vegan - For Women Men Unisex - Fragrance 1.7 Fl oz (Spray 50ml)	48.	4.6 out of 5 stars
Dossier - Woody Oakmoss - Eau de Parfum - Inspired by C. Coco Mademoiselle - Perfume Luxury - Pure Infused - Paraben-Free - Vegan - For Women - Fragrance 1.7 Fl oz (Spray 50ml)	29.	4.5 out of 5 stars
Valentine for Men EDP 3.4 fl Oz- Top Notes of Woody & Outdoor of Sweet Myrtle & Zesty Bergamot - Middle Scent of Roasted Coffee Bean, Chocolate & Hazelnut - Free of Paraben - Elegant 100ml Bottle	24.	4.5 out of 5 stars
Dossier - Gourmand White Flowers - Eau de Parfum - Inspired by Viktor&Rolf's Flowerbomb - Perfume Luxury - Pure Infused - Paraben-Free - Vegan - For Women - Fragrance 1.7 Fl oz (Spray 50ml)	29.	4.6 out of 5 stars
Victoria's Secret Bare Vanilla Body Mist, Body Spray for Women (8.4 oz)	16.	4.7 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)	13.	4.6 out of 5 stars
Lattafa Perfumes Asad for Unisex Eau de Parfum Spray, 3.4 Ounce	24.	4.6 out of 5 stars
Vera Wang Princess Eau de Toilette Spray for Women, Vanilla, 3.4 Fl Ounce	21.	4.3 out of 5 stars
Victoria's Secret Tease Sugar Fleur Eau de Parfum, Notes of Fresh Apple, Floral Bud and Pink Caramel, Perfumes for Women (3.4 oz)	27.	4.7 out of 5 stars
Dossier - Eau de Parfum - Floral Marshmallow - Inspired by By Kilian's Love,Don't Be Shy - Perfume Luxury - Pure Infused - Paraben-Free - Vegan - Feminine - For Women -Fragrance 1.7 Fl Oz (Spray 50ml)	72.	4.6 out of 5 stars
Calvin Klein My Euphoria Eau de Parfum - Women's Ambery Floral Perfume - With Notes of Blackcurrant, Orchid Flambé, Black Sesame, Vanilla & Woods - Luxury Perfumes for Women- Long Lasting Fragrance	40.	4.5 out of 5 stars
Calvin Klein Eternity Aromatic Essence for Men	42.	4.5 out of 5 stars
Versace, Bright Crystal Eau de Toilette Mini for Women, 0.17 Ounce	90.	4.3 out of 5 stars
Perfume High End Designer Fragrance Sampler Set for Women - (Pack of 12 Sample Vials)	9.	4.6 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	19.	4.7 out of 5 stars
Al-Rehab Choco Musk Concentrated Perfume Rollerball for Unisex, 0.2 Ounce	48.	4.5 out of 5 stars
Ed Hardy Women's Perfume Fragrance by Christian Audigier, Eau De Parfum, 3.4 Fl Oz	6.	4.7 out of 5 stars
Versace Bright Crystal Absolu Eau de Perfume Spray, 3.0 Ounce	18.	4.4 out of 5 stars
Michael Kors Sexy Amber for Women 3.4 oz Eau de Parfum Spray	52.	4.6 out of 5 stars

```
## 9      28. 4.4 out of 5 stars
## 10     25. 4.5 out of 5 stars
## 11     27. 4.6 out of 5 stars
## 12     48. 4.6 out of 5 stars
## 13     29. 4.5 out of 5 stars
## 14     24. 4.5 out of 5 stars
## 15     29. 4.6 out of 5 stars
## 16     16. 4.7 out of 5 stars
## 17     13. 4.6 out of 5 stars
## 18     24. 4.6 out of 5 stars
## 19     21. 4.3 out of 5 stars
## 20     27. 4.7 out of 5 stars
## 21     72. 4.6 out of 5 stars
## 22     40. 4.5 out of 5 stars
## 23     42. 4.5 out of 5 stars
## 24     90. 4.3 out of 5 stars
## 25       9. 4.6 out of 5 stars
## 26     19. 4.7 out of 5 stars
## 27     48. 4.5 out of 5 stars
## 28       6. 4.7 out of 5 stars
## 29     18. 4.4 out of 5 stars
## 30     52. 4.6 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	Large Canvas Tote Bag for Women
## 6	
## 7	Tote Bag for Women, Large
## 8	
## 9	
## 10	
## 11	Crossbody Bags for Women
## 12	
## 13	3L TRIPLE ZIP Fanny Packs Belt Bag For Women
## 14	
## 15	Large Canvas Tote Bag for Women
## 16	
## 17	
## 18	
## 19	Corduroy Tote Bag Cute Tote Bag
## 20	
## 21	
## 22	
## 23	
## 24	
## 25	Travel Backpack for Women, Carry On Backpack with USB Charging Port & Shoe Pouch, TSA 15.6inch Laptop Compartment
## 26	
## 27	
## 28	
## 29	
## 30	
##	Price Ratings
## 1	32. 4.4 out of 5 stars
## 2	29. 4.7 out of 5 stars
## 3	58. 4.5 out of 5 stars
## 4	21. 4.5 out of 5 stars
## 5	34. 4.6 out of 5 stars
## 6	33. 4.5 out of 5 stars
## 7	23. 4.6 out of 5 stars
## 8	22. 4.5 out of 5 stars
## 9	31. 4.4 out of 5 stars
## 10	27. 4.7 out of 5 stars
## 11	8. 4.7 out of 5 stars
## 12	16. 4.7 out of 5 stars
## 13	58. 4.6 out of 5 stars
## 14	23. 4.7 out of 5 stars
## 15	69. 4.3 out of 5 stars
## 16	24. 4.7 out of 5 stars
## 17	148. 4.6 out of 5 stars
## 18	8. 4.5 out of 5 stars
## 19	64. 4.5 out of 5 stars
## 20	29. 4.3 out of 5 stars
## 21	39. 4.6 out of 5 stars
## 22	12. 4.7 out of 5 stars
## 23	35. 4.7 out of 5 stars
## 24	24. 4.5 out of 5 stars
## 25	36. 4.7 out of 5 stars
## 26	24. 4.6 out of 5 stars

nameofproduct..3.	Price	Ratings
Amazon's Choice: Overall Pick	32.	4.4 out of 5 stars
Michael Kors	29.	4.7 out of 5 stars
(Crossbody	58.	4.5 out of 5 stars
ZHMO	21.	4.5 out of 5 stars
Large Canvas Tote Bag for Women,Womens Laptop Work Book Bags Crossbody Purse Handbag Shoulder Travel Messenger Gym Totes	34.	4.6 out of 5 stars
BAGSMART	33.	4.5 out of 5 stars
Tote Bag for Women, Lightweight Puffy Tote Bag with Compartments, Quilted Shoulder Bag Handbag for Travel, Work	23.	4.6 out of 5 stars
INICAT	22.	4.5 out of 5 stars
NICAT Summer Straw Bag Small Sling Beach Bag Crossbody Bags for Women	31.	4.4 out of 5 stars
Mroede	27.	4.7 out of 5 stars
Crossbody Bags for Women 4-Pockets Sling Bag for Women Fanny Pack Sling Backpack Casual Daypacks Purse Travel	8.	4.7 out of 5 stars
LATMAP	16.	4.7 out of 5 stars
3L TRIPLE ZIP Fanny Packs Belt Bag For Women Men Crossbody Waist Pack Sling Chest Bum Travel Bag Purse Faux Leather Fashion Cute Beige	58.	4.6 out of 5 stars
Barsine	23.	4.7 out of 5 stars
Large Tote Bags for Women 15.6 Inch Laptop Bag Lightweight Canvas Professional Work Briefcase	69.	4.3 out of 5 stars
INICAT	24.	4.7 out of 5 stars
Small Crossbody Sling Bag Touchscreen Fanny Packs Purses for Women	148.	4.6 out of 5 stars
TOPASION	8.	4.5 out of 5 stars
Corduroy Tote Bag Cute Tote Bags for Women Shoulder Bag with Inner Pocket for Work Beach Travel and Shopping Grocery	64.	4.5 out of 5 stars
CYHTWSDJ	29.	4.3 out of 5 stars
Shoulder Bags for Women, Cute Hobo Tote Handbag Mini Clutch Purse with Zipper Closure	39.	4.6 out of 5 stars
Michael Kors	12.	4.7 out of 5 stars
Crossbody, Brown	35.	4.7 out of 5 stars
Taygeer	24.	4.5 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	36.	4.7 out of 5 stars
Michael Kors	24.	4.6 out of 5 stars
Jet Set Travel Medium Logo Crossbody Bag	69.	4.5 out of 5 stars
Kipling	15.	4.6 out of 5 stars
Sabian Printed Crossbody Mini Bag	80.	4.6 out of 5 stars
Michael Kors	87.	4.6 out of 5 stars

```
## 27    69. 4.5 out of 5 stars
## 28    15. 4.6 out of 5 stars
## 29    80. 4.6 out of 5 stars
## 30    87. 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)
```

```
##                                nameofproduct..4.
## 1                        Amazon's Choice: Overall Pick
## 2                        Under Armour
## 3                        Men's Charged Assert 9 Running Shoe
## 4                        Hey Dude
## 5      Men's Wally Stretch | Men's Loafers | Men's Slip On Shoes | Comfortable & Light-Weight
## 6                        Under Armour
## 7                        Men's Charged Assert 10 Running Shoe
## 8                        adidas
## 9                        Men's Daily 3.0 Sneakers
## 10                       UGG
## 11                       Women's Classic Mini II Boot
## 12                       adidas
## 13                       Men's Lite Racer Adapt 7.0 Sneakers
## 14                       UGG
## 15                       Women's Classic Ultra Mini Platform Boot
## 16                       New Balance
## 17                       Men's 608 V5 Casual Comfort Cross Trainer
## 18                       New Balance
## 19                       Women's 574 Core Sneakers
## 20                       Skechers
## 21                       Men's Afterburn M. Fi
```

```
## 22
## 23
## 24
## 25
## 26
## 27 Womens Slip On Sneakers Women Walking Tennis Shoes Lightweight Casual Sneakers for Gym Travel Work
## 28
## 29
## 30
```

```
##      Price      Ratings
## 1      55. 4.6 out of 5 stars
## 2      44. 4.7 out of 5 stars
## 3      56. 4.5 out of 5 stars
## 4      47. 4.7 out of 5 stars
## 5     159. 4.7 out of 5 stars
## 6      45. 4.3 out of 5 stars
## 7     159. 4.5 out of 5 stars
## 8      61. 4.6 out of 5 stars
## 9      89. 4.6 out of 5 stars
## 10     48. 4.4 out of 5 stars
## 11     63. 4.6 out of 5 stars
## 12     40. 4.6 out of 5 stars
## 13     37. 4.3 out of 5 stars
## 14     51. 4.5 out of 5 stars
## 15     44. 4.4 out of 5 stars
## 16     28. 4.4 out of 5 stars
## 17     48. 4.4 out of 5 stars
## 18     45. 4.5 out of 5 stars
## 19     55. 4.3 out of 5 stars
## 20     69. 4.3 out of 5 stars
## 21     44. 4.3 out of 5 stars
## 22     45. 4.5 out of 5 stars
## 23     68. 4.4 out of 5 stars
## 24     49. 4.5 out of 5 stars
## 25    119. 4.6 out of 5 stars
## 26     59. 4.6 out of 5 stars
## 27     60. 4.6 out of 5 stars
## 28     46. 4.5 out of 5 stars
## 29     52. 4.6 out of 5 stars
## 30    149. 4.7 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
```


nameofproduct..4..	Price	Ratings
Amazon's Choice: Overall Pick	55.	4.6 out of 5 stars
Under Armour	44.	4.7 out of 5 stars
Men's Charged Assert 9 Running Shoe	56.	4.5 out of 5 stars
Hey Dude	47.	4.7 out of 5 stars
Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight	159.	4.7 out of 5 stars
Under Armour	45.	4.3 out of 5 stars
Men's Charged Assert 10	159.	4.5 out of 5 stars
adidas	61.	4.6 out of 5 stars
Men's Daily 3.0 Sneaker	89.	4.6 out of 5 stars
UGG	48.	4.4 out of 5 stars
Women's Classic Mini II Boot	63.	4.6 out of 5 stars
adidas	40.	4.6 out of 5 stars
Men's Lite Racer Adapt 7.0 Sneaker	37.	4.3 out of 5 stars
UGG	51.	4.5 out of 5 stars
Women's Classic Ultra Mini Platform Boot	44.	4.4 out of 5 stars
New Balance	28.	4.4 out of 5 stars
Men's 608 V5 Casual Comfort Cross Trainer	48.	4.4 out of 5 stars
New Balance	45.	4.5 out of 5 stars
Women's 574 Core Sneaker	55.	4.3 out of 5 stars
Skechers	69.	4.3 out of 5 stars
Men's Afterburn M. Fit	44.	4.3 out of 5 stars
Skechers	45.	4.5 out of 5 stars
Women's Hands Free Summits Dazzling Haze	68.	4.4 out of 5 stars
Bruno Marc	49.	4.5 out of 5 stars
Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking Shoes	119.	4.6 out of 5 stars
Abboos	59.	4.6 out of 5 stars
Womens Slip On Sneakers Women Walking Tennis Shoes Lightweight Casual Sneakers for Gym Travel Work	60.	4.6 out of 5 stars
Skechers	46.	4.5 out of 5 stars
Men's Energy Afterburn	52.	4.6 out of 5 stars
adidas	149.	4.7 out of 5 stars

## 3	Men's Relaxed Fit Striped Chino Pant (Available in 12 Colors)
## 4	Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in 12 Colors)
## 5	Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in 12 Colors)
## 6	Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in 12 Colors)
## 7	Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings
## 8	Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings
## 9	High Waisted Leggings for Women - No See Through Tummy Control Cycling Workout Yoga Pants with Pockets
## 10	High Waisted Leggings for Women - No See Through Tummy Control Cycling Workout Yoga Pants with Pockets
## 11	3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Pockets
## 12	3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Pockets
## 13	Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pant
## 14	Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pant
## 15	Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pant
## 16	Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pant
## 17	Authentic Men's Regular Fit Comfortable Joggers
## 18	Authentic Men's Regular Fit Comfortable Joggers
## 19	Mens 3 Pack Fleece Active Athletic Workout Jogger Sweatpants for Men with Zipper Pocket and Drawstring
## 20	Mens 3 Pack Fleece Active Athletic Workout Jogger Sweatpants for Men with Zipper Pocket and Drawstring
## 21	ComfortSoft EcoSmart Men's Fleece Joggers
## 22	ComfortSoft EcoSmart Men's Fleece Joggers
## 23	Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking
## 24	Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking
## 25	Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging
## 26	Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging
## 27	Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Regular Fit)
## 28	Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Regular Fit)

```
## 29
## 30
##      Price      Ratings
## 1    25. 4.5 out of 5 stars
## 2    19. 4.4 out of 5 stars
## 3    24. 4.3 out of 5 stars
## 4     9. 4.4 out of 5 stars
## 5    36. 4.3 out of 5 stars
## 6    17. 4.6 out of 5 stars
## 7    30. 4.4 out of 5 stars
## 8    30. 4.4 out of 5 stars
## 9    39. 4.5 out of 5 stars
## 10   11. 4.3 out of 5 stars
## 11   12. 4.5 out of 5 stars
## 12   29. 4.3 out of 5 stars
## 13   17. 4.3 out of 5 stars
## 14   13. 4.3 out of 5 stars
## 15   14. 4.5 out of 5 stars
## 16   19. 4.7 out of 5 stars
## 17   19. 4.3 out of 5 stars
## 18   26. 4.5 out of 5 stars
## 19   19. 4.3 out of 5 stars
## 20   36. 4.6 out of 5 stars
## 21   29. 4.4 out of 5 stars
## 22   12. 4.5 out of 5 stars
## 23   22. 4.4 out of 5 stars
## 24   34. 4.5 out of 5 stars
## 25   19. 4.3 out of 5 stars
## 26   31. 4.5 out of 5 stars
## 27   23. 4.4 out of 5 stars
## 28   49. 4.3 out of 5 stars
## 29   25. 4.6 out of 5 stars
## 30   34. 4.4 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:

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?

nameofproduct..5..	Price	Ratings
Amazon's Choice: Overall Pick	25.	4.5 out of 5 stars
Wrangler Authentics	19.	4.4 out of 5 stars
Men's Relaxed Fit Stretch Cargo Pant	24.	4.3 out of 5 stars
Amazon Essentials	9.	4.4 out of 5 stars
Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in Big & Tall)	36.	4.3 out of 5 stars
THE GYM PEOPLE	17.	4.6 out of 5 stars
Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings for Women	30.	4.4 out of 5 stars
TNNZEET	30.	4.4 out of 5 stars
High Waisted Leggings for Women - No See Through Tummy Control Cycling Workout Yoga Pants with Pockets Reg & Plus	39.	4.5 out of 5 stars
Ultra Performance	11.	4.3 out of 5 stars
3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Zipper Pockets	12.	4.5 out of 5 stars
Champion	29.	4.3 out of 5 stars
Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pants for Men, 31"	17.	4.3 out of 5 stars
Under Armour	13.	4.3 out of 5 stars
Men's Woven Vital Pants	14.	4.5 out of 5 stars
Wrangler Authentics	19.	4.7 out of 5 stars
Authentics Men's Regular Fit Comfort Flex Waist Jean	19.	4.3 out of 5 stars
PURE CHAMP	26.	4.5 out of 5 stars
Mens 3 Pack Fleece Active Athletic Workout Jogger Sweatpants for Men with Zipper Pocket and Drawstring Size S-3XL	19.	4.3 out of 5 stars
Hanes	36.	4.6 out of 5 stars
ComfortSoft EcoSmart Men's Fleece Sweatpants	29.	4.4 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	22.	4.4 out of 5 stars
G Gradual	34.	4.5 out of 5 stars
Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging, Running	19.	4.3 out of 5 stars
Champion	31.	4.5 out of 5 stars
Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Reg. or Big & Tall)	23.	4.4 out of 5 stars
Rustler	49.	4.3 out of 5 stars
Men's Classic Relaxed Fit	25.	4.6 out of 5 stars
COPYLEAF	34.	4.4 out of 5 stars

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:

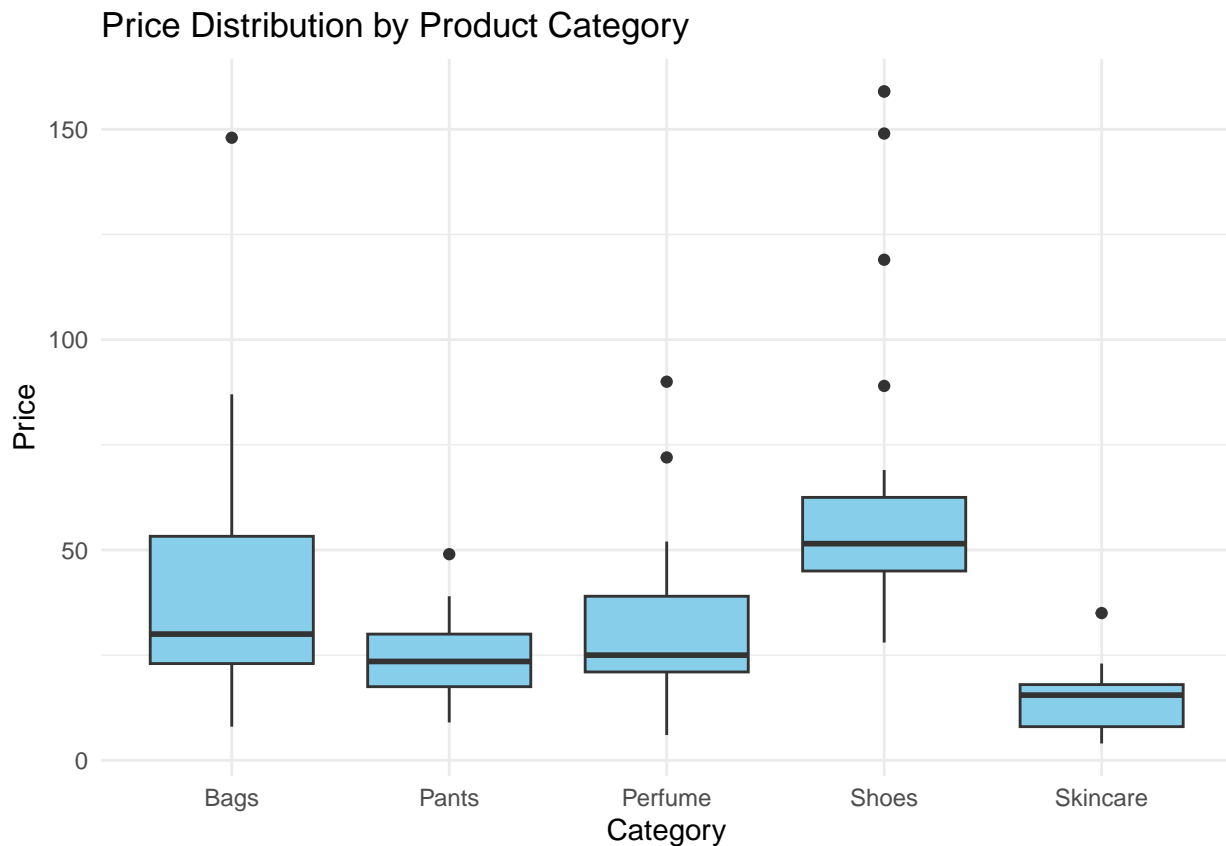
- Using the data to create visual insights for presentations or reports.

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.

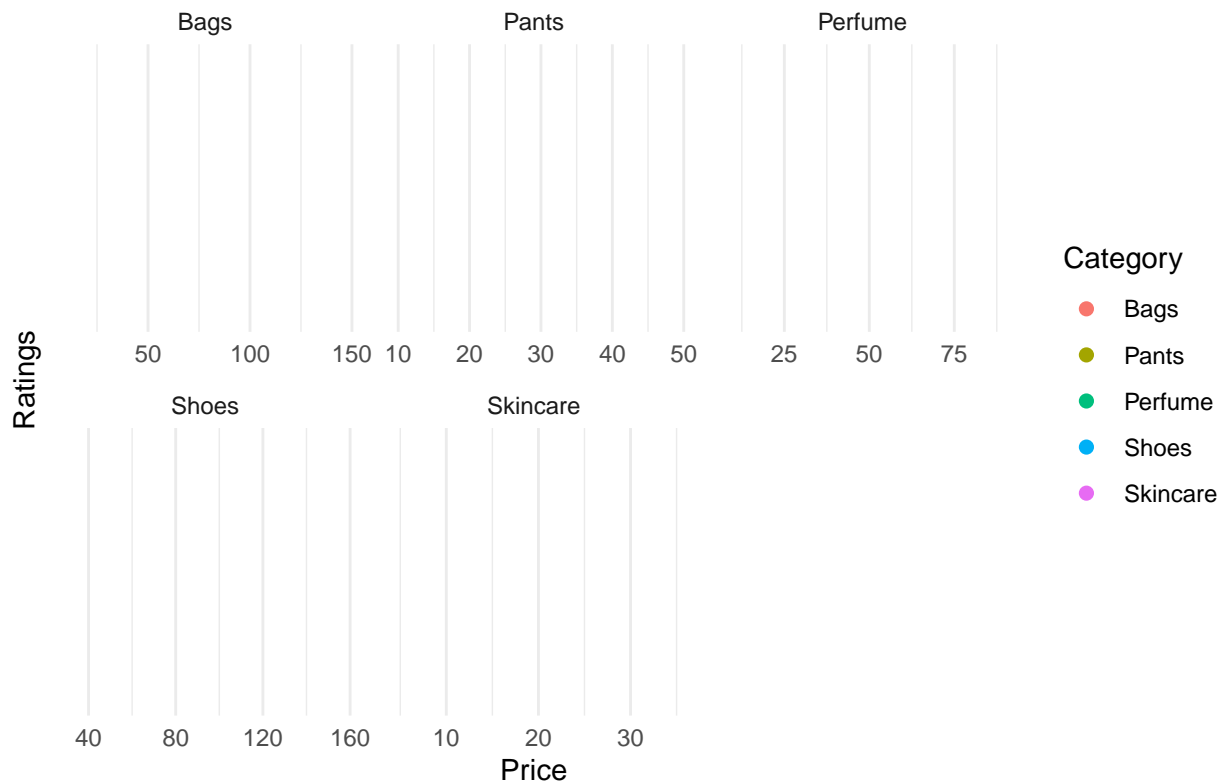
9. Graph the price and the ratings for each category. Use basic plotting functions and ggplot2 package.

```
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
## 3
## 4
```

Bio-Collagen Real Deep

5
 ## 6 Snail Mucin 96% Power Face Serum 3.38 fl oz 100ml, Hy
 ## 7 SKIN Hydrated Ever After Skincare Mini Kit, Cl
 ## 8 Lip Sleeping
 ## 9
 ## 10
 ## 11
 ## 12 Under Eye Patches - 30 Pairs - 24K Gold Eye Mask- Puffy Eyes & Dark Ci
 ## 13
 ## 14 Makeup Headbands, 1pcs Black Spa Headband Fluffy Bow Tie Headband Microfiber F
 ## 15
 ## 16 Toleriane Double Repair Face Moisturizer | Daily Moisturiz
 ## 17
 ## 18 Hydrating Facial Cleanser | Moisturizing Face Wash For Dry Skin | Hyaluronic Acid + Ceramides + G
 ## 19
 ## 20
 ## 21
 ## 22
 ## 23 Moisturizing Cream | Body and Face Moisturizer for Dry Skin | Body Cream with Hyaluronic Acid
 ## 24 Vitamin C Shea S
 ## 25 Squeeze Me Lip Balm, Moisturizing Lip Balm
 ## 26 Facial Spray with Aloe
 ## 27 Pimple Patches for Face, Hydrocolloid Acne Patches, Cute Star Zit Covers, Colorful Spo
 ## 28
 ## 29 SKIN PERFECTING 2% BHA Liquid Sali
 ## 30 Toleriane Hydrating Gentle Face Cleanser | Hydrating Facial Cleanser With Niacinamide + Ceram
 ## Price Ratings
 ## 1 35 4.5 out of 5 stars
 ## 2 23 4.6 out of 5 stars
 ## 3 22 4.3 out of 5 stars
 ## 4 21 4.6 out of 5 stars
 ## 5 19 4.6 out of 5 stars
 ## 6 19 4.5 out of 5 stars
 ## 7 19 4.3 out of 5 stars
 ## 8 18 4.5 out of 5 stars
 ## 9 18 4.5 out of 5 stars
 ## 10 17 4.7 out of 5 stars
 ## 11 17 4.7 out of 5 stars
 ## 12 17 4.6 out of 5 stars
 ## 13 17 4.6 out of 5 stars
 ## 14 17 4.6 out of 5 stars
 ## 15 16 4.5 out of 5 stars
 ## 16 15 4.7 out of 5 stars
 ## 17 15 4.6 out of 5 stars
 ## 18 14 4.3 out of 5 stars
 ## 19 13 4.7 out of 5 stars
 ## 20 9 4.6 out of 5 stars
 ## 21 8 4.7 out of 5 stars
 ## 22 8 4.5 out of 5 stars
 ## 23 8 4.4 out of 5 stars
 ## 24 8 4.3 out of 5 stars
 ## 25 5 4.7 out of 5 stars
 ## 26 5 4.7 out of 5 stars
 ## 27 5 4.7 out of 5 stars

nameofproduct..1..	Price	Ratings
Amazon's Choice: Overall Pick	35	4.5 out of 5 stars
Paula's Choice	23	4.6 out of 5 stars
eos	22	4.3 out of 5 stars
Bio-Collagen Real Deep Mask, Hydrating Overnight Hydrogel Mask, Pore Minimizing, Elasticity Improvement, 34g x4ea	21	4.6 out of 5 stars
COSRX	19	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	19	4.5 out of 5 stars
SKIN Hydrated Ever After Skincare Mini Kit, Cleanser, Makeup Remover, Moisturiser & Eye Cream For Hydrating Skin, Airplane-Friendly Sizes	19	4.3 out of 5 stars
Lip Sleeping Mask: Nourish, Hydrate, Vitamin C, Murumuru & Shea Butter, Antioxidants, Flaky, Dry Lips	18	4.5 out of 5 stars
CeraVe	18	4.5 out of 5 stars
e.l.f.	17	4.7 out of 5 stars
La Roche-Posay	17	4.7 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	4.6 out of 5 stars
WSYUB	17	4.6 out of 5 stars
Makeup Headbands, 1pcs Black Spa Headband Fluffy Bow Tie Headband Microfiber Face Headband, and 2Pcs Wrist Spa Wash Band Absorbent Wristbands, for Washing Face Skin Care	17	4.6 out of 5 stars
LANEIGE	16	4.5 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	15	4.7 out of 5 stars
La Roche-Posay	15	4.6 out of 5 stars
Hydrating Facial Cleanser Moisturizing Face Wash For Dry Skin Hyaluronic Acid + Ceramides + Glycerin Hydrating Cleanser For Normal To Dry Skin National Eczema Association Certified	14	4.3 out of 5 stars
Tree Hut	13	4.7 out of 5 stars
BIODANCE	9	4.6 out of 5 stars
Mario Badescu	8	4.7 out of 5 stars
e.l.f.	8	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	8	4.4 out of 5 stars
Vitamin C Shea Sugar Scrub, 18 oz, Ultra Hydrating and Exfoliating Scrub for Nourishing Essential Body Care	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	5	4.7 out of 5 stars
Facial Spray with Aloe, Herbs and Rose Water for All Skin Types, Face Mist that Hydrates, Rejuvenates & Clarifies	5	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	5	4.7 out of 5 stars
CeraVe	5	4.5 out of 5 stars
SKIN PERFECTING 2% BHA Liquid Salicylic Acid Exfoliant-Facial Exfoliant for Blackheads, Enlarged Pores, Wrinkles & Fine Lines	4	4.5 out of 5 stars
Toleriane Hydrating Gentle Face Cleanser Hydrating Facial Cleanser With Niacinamide + Ceramides Daily Face Wash For Dry Skin To Normal Skin Sensitive Skin Tested Fragrance Free	4	4.5 out of 5 stars

```
## 28      5 4.5 out of 5 stars
```

```
## 29      4 4.5 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
```

```
## 2 Dossier - Eau de Parfum - Floral Marshmallow - Inspired by By Kilian's Love,Don't Be Shy - Perfume
```

```
## 3
```

```
## 4 Billie Eilish Eau de Parfum Spray Perfume for Women
```

```
## 5 Dossier - Eau de Parfum - Ambery Cherry - Inspired by T.Ford Lost Cherry - Perfume
```

```
## 6
```

```
## 7
```

```
## 8 Calvin Klein My Euphoria Eau de Parfum - Women's Ambery Floral Perfume - With Notes of Blackcurrant
Luxury Perfumes for Women- Long Lasting Fragrance
```

```
## 9 Lake & Sky
```

```
## 10 Dossier - Gourmand White Flowers - Eau de Parfum - Inspired by Viktor&Rolf's Flowerbomb
```

```
## 11 Dossier - Woody Oakmoss - Eau de Parfum - Inspired by C. Coco Mademoiselle
```

```
## 12
```

```
## 13 Victoria's Secret Tease Sup
```

```
## 14 Vera Wang Eau de Parfum fo
```

```
## 15
```

```
## 16
```

```
## 17 Le
```

```
## 18 Brazilian Summertime Eau de Parfum for W
```

```
## 19
```

```
## 20
```

```
## 21 Valentine for Men EDP 3.4 fl Oz- Top Notes of Woody & Outdoor of Sweet Myrtle & Zesty Bergamot
```

```
## 22
```

```
## 23
```

```
## 24 Ariana Grande Cloud Eau de Parfum
```

```
Warm Gourmand Fragrance for Women - Women's Perfume with Notes of Lavender, Coconut, Vanilla & Pear
```

```
## 25
## 26
## 27
## 28
## 29
## 30
```

Victoria's Secret Bombshell Mini Fragrance Mist, Notes

```
##      Price      Ratings
## 1      90 4.3 out of 5 stars
## 2      72 4.6 out of 5 stars
## 3      52 4.6 out of 5 stars
## 4      52 4.5 out of 5 stars
## 5      48 4.6 out of 5 stars
## 6      48 4.5 out of 5 stars
## 7      42 4.5 out of 5 stars
## 8      40 4.5 out of 5 stars
## 9      36 4.5 out of 5 stars
## 10     29 4.6 out of 5 stars
## 11     29 4.5 out of 5 stars
## 12     28 4.4 out of 5 stars
## 13     27 4.7 out of 5 stars
## 14     27 4.6 out of 5 stars
## 15     25 4.5 out of 5 stars
## 16     25 4.5 out of 5 stars
## 17     25 4.4 out of 5 stars
## 18     24 4.6 out of 5 stars
## 19     24 4.6 out of 5 stars
## 20     24 4.5 out of 5 stars
## 21     24 4.5 out of 5 stars
## 22     21 4.4 out of 5 stars
## 23     21 4.3 out of 5 stars
## 24     19 4.7 out of 5 stars
## 25     18 4.4 out of 5 stars
## 26     16 4.7 out of 5 stars
## 27     13 4.6 out of 5 stars
## 28      9 4.6 out of 5 stars
## 29      8 4.6 out of 5 stars
## 30      6 4.7 out of 5 stars
```

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

head(bags_ranked, 30)
```

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

La.
Corduroy Tote Bag Cute To
3L TRIPLE ZIP Fanny Packs Belt Bag For Women

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


nameofproduct.2..	Price	Ratings
Versace, Bright Crystal Eau de Toilette Mini for Women, 0.17 Ounce	90	4.3 out of 5 stars
Dossier - Eau de Parfum - Floral Marshmallow - Inspired by By Kilian's Love,Don't Be Shy - Perfume Luxury - Pure Infused - Paraben-Free - Vegan - Feminine - For Women -Fragrance 1.7 Fl Oz (Spray 50ml)	72	4.6 out of 5 stars
Michael Kors Sexy Amber for Women 3.4 oz Eau de Parfum Spray	52	4.6 out of 5 stars
Billie Eilish Eau de Parfum Spray Perfume for Women, Notes of Sugared Petals, Vanilla & Warm Musk, Amber Gourmand Fragrance, Long Lasting, Everyday Scent	52	4.5 out of 5 stars
Dossier - Eau de Parfum - Ambery Cherry - Inspired by T.Ford Lost Cherry - Perfume Luxury - Pure Infused - Paraben Free - Vegan - For Women Men Unisex - Fragrance 1.7 Fl oz (Spray 50ml)	48	4.6 out of 5 stars
Al-Rehab Choco Musk Concentrated Perfume Rollerball for Unisex, 0.2 Ounce	48	4.5 out of 5 stars
Calvin Klein Eternity Aromatic Essence for Men	42	4.5 out of 5 stars
Calvin Klein My Euphoria Eau de Parfum - Women's Ambery Floral Perfume - With Notes of Blackcurrant, Orchid Flambé, Black Sesame, Vanilla & Woods - Luxury Perfumes for Women- Long Lasting Fragrance	40	4.5 out of 5 stars
Lake & Skye 11 11 Eau de Parfum Travel Spray, Long Lasting Fragrance, 0.5 fl oz (15 ml) - Sheer & Uplifting Scent	36	4.5 out of 5 stars
Dossier - Gourmand White Flowers - Eau de Parfum - Inspired by Viktor&Rolf's Flowerbomb - Perfume Luxury - Pure Infused - Paraben-Free - Vegan - For Women - Fragrance 1.7 Fl oz (Spray 50ml)	29	4.6 out of 5 stars
Dossier - Woody Oakmoss - Eau de Parfum - Inspired by C. Coco Mademoiselle - Perfume Luxury - Pure Infused - Paraben-Free - Vegan - For Women - Fragrance 1.7 Fl oz (Spray 50ml)	29	4.5 out of 5 stars
Lattafa Perfumes Khamrah for Unisex Eau de Parfum Spray, 3.4 Ounce	28	4.4 out of 5 stars
Victoria's Secret Tease Sugar Fleur Eau de Parfum, Notes of Fresh Apple, Floral Bud and Pink Caramel, Perfumes for Women (3.4 oz)	27	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	27	4.6 out of 5 stars
Sol de Janeiro Hair & Body Fragrance Mist Travel Size 90mL/3.0 fl oz.	25	4.5 out of 5 stars
Sol de Janeiro Hair & Body Fragrance Mist Travel Size 90mL/3.0 fl oz.	25	4.5 out of 5 stars
Le Monde Gourmand Latte D'or Eau de Parfum - 1 fl oz (30 ml) - Coconut, Warm, Spicy, Ginger Perfume Notes	25	4.4 out of 5 stars
Brazilian Summertime Eau de Parfum for Women, Notes of Pistachio & Lemon, Safe for Sensitive Skin, Luxury Fragrance By Modern Memory, 2.5 fl oz	24	4.6 out of 5 stars
Lattafa Perfumes Asad for Unisex Eau de Parfum Spray, 3.4 Ounce	24	4.6 out of 5 stars
Amazon's Choice: Overall Pick	24	4.5 out of 5 stars
Valentine for Men EDP 3.4 fl Oz- Top Notes of Woody & Outdoor of Sweet Myrtle & Zesty Bergamot - Middle Scent of Roasted Coffee Bean, Chocolate & Hazelnut - Free of Paraben - Elegant 100ml Bottle	24	4.5 out of 5 stars
Lattafa Yara for Women Eau de Parfum Spray, 3.40 Ounce / 100 ml	21	4.4 out of 5 stars
Vera Wang Princess Eau de Toilette Spray for Women, Vanilla, 3.4 Fl Ounce	21	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	19	4.7 out of 5 stars
Versace Bright Crystal Absolu Eau de Perfume Spray, 3.0 Ounce	18	4.4 out of 5 stars
Victoria's Secret Bare Vanilla Body Mist, Body Spray for Women (8.4 oz)	16	4.7 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)	13	4.6 out of 5 stars
Perfume High End Designer Fragrance Sampler Set for Women - (Pack of 12 Sample Vials)	9	4.6 out of 5 stars
Al-Rehab Choco Musk Eau de Parfum Spray for Women, 1.7 Ounce	8	4.6 out of 5 stars
Ed Hardy Women's Perfume Fragrance by Christian Audigier, Eau De Parfum, 3.4 Fl Oz	6	4.7 out of 5 stars

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

Price Ratings

1 148 4.6 out of 5 stars

2 87 4.6 out of 5 stars

3 80 4.6 out of 5 stars

4 69 4.5 out of 5 stars

5 69 4.3 out of 5 stars

6 64 4.5 out of 5 stars

7 58 4.6 out of 5 stars

8 58 4.5 out of 5 stars

9 39 4.6 out of 5 stars

10 36 4.7 out of 5 stars

11 35 4.7 out of 5 stars

12 34 4.6 out of 5 stars

13 33 4.5 out of 5 stars

14 32 4.4 out of 5 stars

15 31 4.4 out of 5 stars

16 29 4.7 out of 5 stars

Large Canvas Tote Bag for Women

Tote Bag for Women, Large

Crossbody Bags for Women

nameofproduct..3.	Price	Ratings
Small Crossbody Sling Bag Touchscreen Fanny Packs Purses for Women	148	4.6 out of 5 stars
Michael Kors	87	4.6 out of 5 stars
Sabian Printed Crossbody Mini Bag	80	4.6 out of 5 stars
Jet Set Travel Medium Logo Crossbody Bag	69	4.5 out of 5 stars
Large Tote Bags for Women 15.6 Inch Laptop Bag Lightweight Canvas Professional Work Briefcase	69	4.3 out of 5 stars
Corduroy Tote Bag Cute Tote Bags for Women Shoulder Bag with Inner Pocket for Work Beach Travel and Shopping Grocery	64	4.5 out of 5 stars
3L TRIPLE ZIP Fanny Packs Belt Bag For Women Men Crossbody Waist Pack Sling Chest Bum Travel Bag Purse Faux Leather Fashion Cute Beige	58	4.6 out of 5 stars
(Crossbody	58	4.5 out of 5 stars
Shoulder Bags for Women, Cute Hobo Tote Handbag Mini Clutch Purse with Zipper Closure	39	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	36	4.7 out of 5 stars
Crossbody, Brown	35	4.7 out of 5 stars
Large Canvas Tote Bag for Women, Womens Laptop Work Book Bags Crossbody Purse Handbag Shoulder Travel Messenger Gym Totes	34	4.6 out of 5 stars
BAGSMART	33	4.5 out of 5 stars
Amazon's Choice: Overall Pick	32	4.4 out of 5 stars
NICAT Summer Straw Bag Small Sling Beach Bag Crossbody Bags for Women	31	4.4 out of 5 stars
Michael Kors	29	4.7 out of 5 stars
CYHTWSDJ	29	4.3 out of 5 stars
Mroede	27	4.7 out of 5 stars
INICAT	24	4.7 out of 5 stars
Michael Kors	24	4.6 out of 5 stars
Taygeer	24	4.5 out of 5 stars
Barsine	23	4.7 out of 5 stars
Tote Bag for Women, Lightweight Puffy Tote Bag with Compartments, Quilted Shoulder Bag Handbag for Travel, Work	23	4.6 out of 5 stars
INICAT	22	4.5 out of 5 stars
ZHMO	21	4.5 out of 5 stars
LATMAP	16	4.7 out of 5 stars
Kipling	15	4.6 out of 5 stars
Michael Kors	12	4.7 out of 5 stars
Crossbody Bags for Women 4-Pockets Sling Bag for Women Fanny Pack Sling Backpack Casual Daypacks Purse Travel	8	4.7 out of 5 stars
TOPASION	8	4.5 out of 5 stars

```
## 17      29 4.3 out of 5 stars
## 18      27 4.7 out of 5 stars
## 19      24 4.7 out of 5 stars
## 20      24 4.6 out of 5 stars
## 21      24 4.5 out of 5 stars
## 22      23 4.7 out of 5 stars
## 23      23 4.6 out of 5 stars
## 24      22 4.5 out of 5 stars
## 25      21 4.5 out of 5 stars
## 26      16 4.7 out of 5 stars
## 27      15 4.6 out of 5 stars
## 28      12 4.7 out of 5 stars
## 29       8 4.7 out of 5 stars
## 30       8 4.5 out of 5 stars
```

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

head(shoes_ranked, 30)
```

```
##                                                                    nameofproduct..4.
## 1      Men's Wally Stretch | Men's Loafers | Men's Slip On Shoes | Comfortable & Light-Weight
## 2                                                                    Men's Charged Assert 10
## 3                                                                    adidas
## 4      Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking Shoes
## 5                                                                    Men's Daily 3.0 Sneakers
## 6                                                                    Skechers
## 7                                                                    Women's Hands Free Summits Dazzling Haz
## 8                                                                    Women's Classic Mini II Boot
## 9                                                                    adidas
## 10 Womens Slip On Sneakers Women Walking Tennis Shoes Lightweight Casual Sneakers for Gym Travel Worl
## 11                                                                    Abboos
## 12                                                                    Men's Charged Assert 9 Running Sho
## 13                                                                    Amazon's Choice: Overall Pic
## 14                                                                    Women's 574 Core Sneake
## 15                                                                    Men's Energy Afterburn
## 16                                                                    UG
```

```

## 17
## 18
## 19
## 20
## 21
## 22
## 23
## 24
## 25
## 26
## 27
## 28
## 29
## 30
##      Price      Ratings
## 1      159 4.7 out of 5 stars
## 2      159 4.5 out of 5 stars
## 3      149 4.7 out of 5 stars
## 4      119 4.6 out of 5 stars
## 5       89 4.6 out of 5 stars
## 6       69 4.3 out of 5 stars
## 7       68 4.4 out of 5 stars
## 8       63 4.6 out of 5 stars
## 9       61 4.6 out of 5 stars
## 10      60 4.6 out of 5 stars
## 11      59 4.6 out of 5 stars
## 12      56 4.5 out of 5 stars
## 13      55 4.6 out of 5 stars
## 14      55 4.3 out of 5 stars
## 15      52 4.6 out of 5 stars
## 16      51 4.5 out of 5 stars
## 17      49 4.5 out of 5 stars
## 18      48 4.4 out of 5 stars
## 19      48 4.4 out of 5 stars
## 20      47 4.7 out of 5 stars
## 21      46 4.5 out of 5 stars
## 22      45 4.5 out of 5 stars
## 23      45 4.5 out of 5 stars
## 24      45 4.3 out of 5 stars
## 25      44 4.7 out of 5 stars
## 26      44 4.4 out of 5 stars
## 27      44 4.3 out of 5 stars
## 28      40 4.6 out of 5 stars
## 29      37 4.3 out of 5 stars
## 30      28 4.4 out of 5 stars

```

```

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

head(pants_ranked, 30)

```

```

##
## 1
## 2 High Waisted Leggings for Women - No See Through Tummy Control Cycling Workout Yoga Pants with Po

```

nameofproduct..4..	Price	Ratings
Men's Wally Stretch Men's Loafers Men's Slip On Shoes Comfortable & Light-Weight	159	4.7 out of 5 stars
Men's Charged Assert 10	159	4.5 out of 5 stars
adidas	149	4.7 out of 5 stars
Men's KnitFlex Breeze Mesh Sneakers Oxfords Lace-Up Lightweight Casual Walking Shoes	119	4.6 out of 5 stars
Men's Daily 3.0 Sneaker	89	4.6 out of 5 stars
Skechers	69	4.3 out of 5 stars
Women's Hands Free Summits Dazzling Haze	68	4.4 out of 5 stars
Women's Classic Mini II Boot	63	4.6 out of 5 stars
adidas	61	4.6 out of 5 stars
Womens Slip On Sneakers Women Walking Tennis Shoes Lightweight Casual Sneakers for Gym Travel Work	60	4.6 out of 5 stars
Abboos	59	4.6 out of 5 stars
Men's Charged Assert 9 Running Shoe	56	4.5 out of 5 stars
Amazon's Choice: Overall Pick	55	4.6 out of 5 stars
Women's 574 Core Sneaker	55	4.3 out of 5 stars
Men's Energy Afterburn	52	4.6 out of 5 stars
UGG	51	4.5 out of 5 stars
Bruno Marc	49	4.5 out of 5 stars
UGG	48	4.4 out of 5 stars
Men's 608 V5 Casual Comfort Cross Trainer	48	4.4 out of 5 stars
Hey Dude	47	4.7 out of 5 stars
Skechers	46	4.5 out of 5 stars
New Balance	45	4.5 out of 5 stars
Skechers	45	4.5 out of 5 stars
Under Armour	45	4.3 out of 5 stars
Under Armour	44	4.7 out of 5 stars
Women's Classic Ultra Mini Platform Boot	44	4.4 out of 5 stars
Men's Afterburn M. Fit	44	4.3 out of 5 stars
adidas	40	4.6 out of 5 stars
Men's Lite Racer Adapt 7.0 Sneaker	37	4.3 out of 5 stars
New Balance	28	4.4 out of 5 stars

3

4

Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available

5

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7

8

Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leg

9

10

ComfortSoft EcoSmart Men's F

11

12

13

Men's Cla

14

Amazon's Choic

15

Men's Relaxed Fit St

16

Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Reg

17

Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wick

18

Wran

19

Wran

20

Authentic Men's Regular Fit Comfort

21

Mens 3 Pack Fleece Active Athletic Workout Jogger Sweatpants for Men with Zipper Pocket and Draws

22

Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, J

23

24

Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pa

25

Men's W

26

27

3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with

28

F

```
## 29
## 30
##      Price      Ratings
## 1      49 4.3 out of 5 stars
## 2      39 4.5 out of 5 stars
## 3      36 4.6 out of 5 stars
## 4      36 4.3 out of 5 stars
## 5      34 4.5 out of 5 stars
## 6      34 4.4 out of 5 stars
## 7      31 4.5 out of 5 stars
## 8      30 4.4 out of 5 stars
## 9      30 4.4 out of 5 stars
## 10     29 4.4 out of 5 stars
## 11     29 4.3 out of 5 stars
## 12     26 4.5 out of 5 stars
## 13     25 4.6 out of 5 stars
## 14     25 4.5 out of 5 stars
## 15     24 4.3 out of 5 stars
## 16     23 4.4 out of 5 stars
## 17     22 4.4 out of 5 stars
## 18     19 4.7 out of 5 stars
## 19     19 4.4 out of 5 stars
## 20     19 4.3 out of 5 stars
## 21     19 4.3 out of 5 stars
## 22     19 4.3 out of 5 stars
## 23     17 4.6 out of 5 stars
## 24     17 4.3 out of 5 stars
## 25     14 4.5 out of 5 stars
## 26     13 4.3 out of 5 stars
## 27     12 4.5 out of 5 stars
## 28     12 4.5 out of 5 stars
## 29     11 4.3 out of 5 stars
## 30      9 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
Rustler	49	4.3 out of 5 stars
High Waisted Leggings for Women - No See Through Tummy Control Cycling Workout Yoga Pants with Pockets Reg & Plus	39	4.5 out of 5 stars
Hanes	36	4.6 out of 5 stars
Men's Classic-Fit Wrinkle-Resistant Flat-Front Chino Pant (Available in Big & Tall)	36	4.3 out of 5 stars
G Gradual	34	4.5 out of 5 stars
COPYLEAF	34	4.4 out of 5 stars
Champion	31	4.5 out of 5 stars
Thick High Waist Yoga Pants with Pockets, Tummy Control Workout Running Yoga Leggings for Women	30	4.4 out of 5 stars
TNNZEET	30	4.4 out of 5 stars
ComfortSoft EcoSmart Men's Fleece Sweatpants	29	4.4 out of 5 stars
Champion	29	4.3 out of 5 stars
PURE CHAMP	26	4.5 out of 5 stars
Men's Classic Relaxed Fit	25	4.6 out of 5 stars
Amazon's Choice: Overall Pick	25	4.5 out of 5 stars
Men's Relaxed Fit Stretch Cargo Pant	24	4.3 out of 5 stars
Men's Pants, Lightweight Open-Hem Lounge Pants for Men, Jersey Pants (Reg. or Big & Tall)	23	4.4 out of 5 stars
Eversoft Fleece Elastic Bottom Sweatpants with Pockets, Relaxed Fit, Moisture Wicking, Breathable	22	4.4 out of 5 stars
Wangler Authentics	19	4.7 out of 5 stars
Wangler Authentics	19	4.4 out of 5 stars
Authentics Men's Regular Fit Comfort Flex Waist Jean	19	4.3 out of 5 stars
Mens 3 Pack Fleece Active Athletic Workout Jogger Sweatpants for Men with Zipper Pocket and Drawstring Size S-3XL	19	4.3 out of 5 stars
Men's Sweatpants with Zipper Pockets Tapered Joggers for Men Athletic Pants for Workout, Jogging, Running	19	4.3 out of 5 stars
THE GYM PEOPLE	17	4.6 out of 5 stars
Men's Joggers, Lightweight Lounge Pants, Jersey Graphic Pants for Men, 31"	17	4.3 out of 5 stars
Men's Woven Vital Pants	14	4.5 out of 5 stars
Under Armour	13	4.3 out of 5 stars
3 Pack Fleece Active Tech Joggers for Men, Mens Sweatpants with Zipper Pockets	12	4.5 out of 5 stars
Fruit of the Loom	12	4.5 out of 5 stars
Ultra Performance	11	4.3 out of 5 stars
Amazon Essentials	9	4.4 out of 5 stars