

RWorksheet#5_group6(Vicinte, Montealto, Eusuya)

Group6

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#5a.

```
install.packages("rvest")
```

```
## Error in install.packages : Updating loaded packages
```

```
install.packages("polite")
```

```
## Error in install.packages : Updating loaded packages
```

```
library(rvest)
library(polite)
```

```
#product_1
```

```
# Read the HTML file
```

```
url <- "https://www.amazon.com/s?bbn=2562090011&rh=n%3A2562090011%2Cn%3A15684181&dc&qid=1733043876&rnid=2562090011"
```

```
session <- polite::bow(url,
  user_agent = "Educational Purpose")
)"
```

```
## [1] ")"
```

```
session
```

```
## <polite session> https://www.amazon.com/s?bbn=2562090011&rh=n%3A2562090011%2Cn%3A15684181&dc&qid=1733043876&rnid=2562090011
```

```
## User-agent: Educational Purpose
```

```
## robots.txt: 138 rules are defined for 5 bots
```

```
## Crawl delay: 5 sec
```

```
## The path is scrapable for this user-agent
```

```
session_page <- scrape(session)
```

```
# Find all div elements with the specified class
```

```
div_elements <- html_nodes(session_page, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-col-4-of-24')
```

```
# Create empty vectors to store data
```

```
links <- character()
```

```
descriptions <- character()
```

```
prices <- character()
```

```
ratings <- character()
```

```
for (div_element in div_elements) {
```

```
  # Find the a element with class="a-link-normal s-no-outline" and get the link
```

```

a_element <- html_node(div_element, 'a.a-link-normal.s-no-outline')
link <- ifelse(!is.na(a_element), paste0("https://amazon.com", html_attr(a_element, "href")), '')

# Find the span element with class="a-size-base-plus a-color-base a-text-normal" and get the title
description_element <- html_node(div_element, 'span.a-size-base-plus.a-color-base.a-text-normal')
description <- ifelse(!is.na(description_element), html_text(description_element), '')

# Find the span element with class="a-price-whole" and get the price
price_element <- html_node(div_element, 'span.a-price-whole')
price <- ifelse(!is.na(price_element), html_text(price_element), '')

# Find the span element with class="a-icon-alt" and get the ratings
rating_element <- html_node(div_element, 'span.a-icon-alt')
rating <- ifelse(!is.na(rating_element), html_text(rating_element), '')

rating <- gsub("out of 5 stars","",rating, fixed=TRUE)

# Append data to vectors
links <- c(links, link)
descriptions <- c(descriptions, description)
prices <- c(prices, price)
ratings <- c(ratings, rating)
}

# Create a data frame
automotive <- data.frame(Links = links,
                        Descriptions = descriptions,
                        Price = prices,
                        Rating = ratings)

automotive

##
## 1 https://amazon.com/Cl
## 2 https://ar
## 3 https://
## 4 https://amazon.com/LISEN-Retractable-Charger-Charging-Accessories/dp/B0D4215HCX/ref
## 5 https://amazon.com/l
## 6 https://amazon.com/MOLOSLEEVE-Keychain-Anti-Scratch-AirTags-Accessories/dp/BOCGDDXY11/ref
## 7 https://amazon.com/Miracase-Holders-Universal-Automobile-Smartphones/dp/BOCHYBKQPM/ref
## 8 https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref
## 9 https://amazon.com/Qifutan-Windshield-Dashboard-Automobile-Smartphone/dp/BOCHS69JW3/ref
## 10 https://amazon.com/Tough-Headwear-Balaclava-Snowboarding-Motorcycling/dp/B019F18TX4/ref=s
## 11 https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=s
## 12 https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=s
## 13 https://amazon.com/NOCO-GENIUS1-Fully-Automatic-Temperature-Compensation/dp/B07W46BX31/ref=s
## 14 https://ar
## 15 https://amazon.com/HOTOR-Car-Trash-Storage-Pockets/dp/B07VGRVKSN/ref=s
## 16 https://amazon.com/Etek
## 17 https://amazon.com
## 18 https://amazon.com/l
## 19 https://
## 20 https://amazon.co

```

```

## 21                                                                                                     https://amazon.
## 22                                                                                                     https://a
## 23                                                                                                     https://amazon.com/AstroAI-Detachable-Scraper-Ergonomic-Removal/dp/B07V37GVY9/ref=s
## 24                                                                                                     https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/B0CM6KVCSX/ref=s
##   Descriptions Price Rating
## 1           5.    4.1
## 2          69.    4.3
## 3          99.    4.6
## 4          19.    4.6
## 5         123.    4.2
## 6           4.    4.6
## 7          15.    4.3
## 8           5.    4.1
## 9          12.    4.3
## 10         19.    4.5
## 11         31.    4.5
## 12         12.    4.6
## 13         27.    4.5
## 14         24.    4.6
## 15          9.    4.5
## 16         15.    4.6
## 17         16.    4.5
## 18          9.    4.6
## 19         37.    4.0
## 20         26.    4.6
## 21         12.    4.6
## 22        107.    4.7
## 23         15.    4.6
## 24         12.    4.4

write.csv(automotive, "automotive.csv")

library(rvest)
library(polite)

#product_2
# Read the HTML file
url1 <- "https://www.amazon.com/s?bbn=16225005011&rh=n%3A16225005011%2Cn%3A165796011&dc&qid=1733045399&"

session1 <- bow(url1,
                 user_agent = "Educational")
session1

## <polite session> https://www.amazon.com/s?bbn=16225005011&rh=n%3A16225005011%2Cn%3A165796011&dc&qid=
##   User-agent: Educational
##   robots.txt: 138 rules are defined for 5 bots
##   Crawl delay: 5 sec
##   The path is scrapable for this user-agent

session_page1 <- scrape(session1)
print(session_page1)

## {html_document}
## <html lang="en-us" class="a-no-js" data-19ax5a9jf="dingo">
## [1] <head>\n<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">\n<scri ...
## [2] <body class="a-m-us a-aui_72554-c a-aui_a11y_6_837773-t2 a-aui_amzn_img_959719-c a ...

```

```

# Find all div elements with the specified class
div_elements1 <- html_nodes(session_page1, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-col-4-of-24')

# Create empty vectors to store data
links1 <- character()
descriptions1 <- character()
prices1 <- character()
ratings1 <- character()

for (div_element1 in div_elements1) {
  # Find the a element with class="a-link-normal s-no-outline" and get the link

  a_elemen <- html_node(div_element1, 'a.a-link-normal.s-no-outline')
  link1 <- ifelse(!is.na(a_elemen), paste0("https://amazon.com", html_attr(a_elemen, "href")), '')

  # Find the span element with class="a-size-base-plus a-color-base a-text-normal" and get the title
  description_elemen <- html_node(div_element1, 'span.a-size-base-plus.a-color-base.a-text-normal')
  description1 <- ifelse(!is.na(description_elemen), html_text(description_elemen), '')

  # Find the span element with class="a-price-whole" and get the price
  price_elemen <- html_node(div_element1, 'span.a-price-whole')
  price1 <- ifelse(!is.na(price_elemen), html_text(price_elemen), '')

  # Find the span element with class="a-icon-alt" and get the ratings
  rating_elemen <- html_node(div_element1, 'span.a-icon-alt')
  rating1 <- ifelse(!is.na(rating_elemen), html_text(rating_elemen), '')

  rating1 <- gsub("out of 5 stars","",rating1, fixed=TRUE)

  # Append data to vectors
  links1 <- c(links1, link1)
  descriptions1 <- c(descriptions1, description1)
  prices1 <- c(prices1, price1)
  ratings1 <- c(ratings1, rating1)
}

# Create a data frame
babyprod <- data.frame(Links = links1,
                      Descriptions = descriptions1,
                      Price = prices1,
                      Rating = ratings1)

babyprod

##
## 1 https://amazon.com/Munchkin-Float-Play-Bubbles-Count/dp/B00I3K25R0/ref=sr_1_1?di
## 2 https://amazon.com/Montessori-Sensory-Teething-Learning-Developmental/dp/B0CD42KQ3K/ref=sr_1_2?di
## 3 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?di
## 4 https://amazon.com/WaterWipes-Sensitive-Wipes-Count-Packs/dp/B008KJEYL0/ref=sr_1_4?di
## 5 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?di
## 6 https://amazon.com/BEBECAN-Teething-Silicone-Cleaning-Necessities/dp/B09H5MKPP4/ref=sr_1_6?di
## 7 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?di
## 8 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?di

```

```
## 9      https://amazon.com/Infinno-Rattles-Finder-Newborn-Infants/dp/B0B21ZM7LJ/ref=sr_1_9?di
## 10     https://amazon.com/Bluey-Sound-Effects-Plush-Multicolor/dp/B08S34YH92/ref=sr_1_10?di
## 11     https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
## 12     https://amazon.com/Suction-Spinner-Spinning-sensory-toddlers/dp/B08X1YQ2N9/ref=sr_1_12?di
## 13     https://amazon.com/Baby-Einstein-Soother-Melodies-Newborns/dp/B07DM86Z43/ref=sr_1_13?di
## 14     https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
## 15     https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
## 16     https://amazon.com/Infinno-Activity-Center-Stimulate-Growth/dp/B07XC6YCC5/ref=sr_1_16?di
## 17     https://amazon.com/Yeeeasy-Inflatable-Infants-Toddlers-Development/dp/B09XHGG4B8/ref=sr_1_17?di
## 18     https://amazon.com/Projector-Christmas-Birthday-Stocking-Stufflers/dp/B09DY1VZJS/ref=sr_1_18?di
## 19     https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
## 20     https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 21     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 22     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 23     https://amazon.com/LEGO-DUPLO-First-Number-Train/dp/B08YP9JRHP/ref=sr_1_23?di
## 24     https://amazon.com/Crayola-Lights-Musical-Doodle-Toddler/dp/B077BS24FS/ref=sr_1_24?di
##      Descriptions Price Rating
## 1          6.      4.8
## 2          9.      4.6
## 3         21.      4.8
## 4         39.      4.7
## 5         16.      4.7
## 6          9.      4.8
## 7         35.      3.7
## 8         19.      4.5
## 9         13.      4.7
## 10        10.      4.8
## 11        19.      4.2
## 12         7.      4.7
## 13        33.      4.6
## 14        20.      4.5
## 15        19.      4.8
## 16        15.      4.4
## 17         9.      4.2
## 18        20.      4.2
## 19        34.      4.8
## 20        17.      4.6
## 21        12.      4.8
## 22         5.      4.7
## 23        15.      4.8
## 24        19.      4.4
```

```
write.csv(babyprod, "babyprod.csv")
```

```
library(rvest)
library(polite)
```

```
#product_3
# Read the HTML file
```

```
url2 <- "https://www.amazon.com/s?bbn=16225007011&rh=n%3A16225007011%2Cn%3A172282&dc&qid=1733047215&rnid=283155"

# Create a session object
session2 <- bow(url2,
```

```
                user_agent = "Educational")
```

```
session2
```

```

## <polite session> https://www.amazon.com/s?bbn=16225007011&rh=n%3A16225007011%2Cn%3A172282&dc&qid=173
##   User-agent: Educational
##   robots.txt: 138 rules are defined for 5 bots
##   Crawl delay: 5 sec
##   The path is scrapable for this user-agent

session_page2 <- scrape(session2)
print(session_page2)

## {html_document}
## <html lang="en-us" class="a-no-js" data-19ax5a9jf="dingo">
## [1] <head>\n<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">\n<scri ...
## [2] <body class="a-m-us a-aui_72554-c a-aui_a1ly_6_837773-t2 a-aui_amzn_img_959719-c a ...
# Find all div elements with the specified class
div_elements2 <- html_nodes(session_page2, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-co

# Create empty vectors to store data
links2 <- character()
descriptions2 <- character()
prices2 <- character()
ratings2 <- character()

for (div_element2 in div_elements2) {
  # Find the a element with class="a-link-normal s-no-outline" and get the link

  a_eleme <- html_node(div_element2, 'a.a-link-normal.s-no-outline')
  link2 <- ifelse(!is.na(a_eleme), paste0("https://amazon.com", html_attr(a_eleme, "href")), '')

  # Find the span element with class="a-size-base-plus a-color-base a-text-normal" and get the title
  description_eleme <- html_node(div_element2, 'span.a-size-base-plus.a-color-base.a-text-normal')
  description2 <- ifelse(!is.na(description_eleme), html_text(description_eleme), '')

  # Find the span element with class="a-price-whole" and get the price
  price_eleme <- html_node(div_element2, 'span.a-price-whole')
  price2 <- ifelse(!is.na(price_eleme), html_text(price_eleme), '')

  # Find the span element with class="a-icon-alt" and get the ratings
  rating_eleme <- html_node(div_element2, 'span.a-icon-alt')
  rating2 <- ifelse(!is.na(rating_eleme), html_text(rating_eleme), '')

  rating2 <- gsub("out of 5 stars","",rating2, fixed=TRUE)

  # Append data to vectors
  links2 <- c(links2, link2)
  descriptions2 <- c(descriptions2, description2)
  prices2 <- c(prices2, price2)
  ratings2<- c(ratings2, rating2)
}

# Create a data frame
electronicsprod <- data.frame(Links = links2,
                              Descriptions = descriptions2,

```

```
Price = prices2,
Rating = ratings2)
electronicsprod
```

```
##
## 1 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## 2 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## 3 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## 4
## 5
## 6
## 7
## 8
## 9
## 10
## 11
## 12
## 13 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## 14 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## 15 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## 16
## 17
## 18
## 19
## 20
## 21
## 22
## 23
## 24
## 25
## 26
## 27
## 28
## 29
## 30
## 31 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## 32 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## 33 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30jE3MzM5MTIzMzA6c3BfYXRmX2Jyb3d
## Descriptions Price Rating
## 1 699. 4.2
## 2 99. 4.4
## 3 129. 4.6
## 4 149. 4.5
## 5 69. 4.6
## 6 169. 4.8
## 7 36. 4.6
## 8 6. 4.6
## 9 1,272. 4.3
## 10 163. 4.4
## 11 26. 4.2
## 12 99. 4.4
## 13 85. 4.3
## 14 199.
## 15 299.
```

```
## 16          27.    4.4
## 17          19.    4.8
## 18          97.    4.5
## 19          24.    4.8
## 20          11.    4.7
## 21         199.    4.6
## 22         279.    4.2
## 23         279.    4.4
## 24         299.    4.6
## 25         259.    4.6
## 26         174.    4.8
## 27         217.    4.4
## 28          34.    4.4
## 29           9.    4.6
## 30          21.    4.7
## 31         109.    4.9
## 32          29.    3.9
## 33          49.    4.1
```

```
write.csv(electronicprod, "electronicsprod.csv")
```

```
library(rvest)
library(polite)
```

```
#product_4
# Read the HTML file
```

```
url3 <- "https://www.amazon.com/s?i=fashion-luggage&bbn=16225017011&rh=n%3A7141123011%2Cn%3A16225017011"
```

```
session3 <- bow(url3,
                 user_agent = "Educational")
session3
```

```
## <polite session> https://www.amazon.com/s?i=fashion-luggage&bbn=16225017011&rh=n%3A7141123011%2Cn%3A16225017011
##   User-agent: Educational
##   robots.txt: 138 rules are defined for 5 bots
##   Crawl delay: 5 sec
##   The path is scrapable for this user-agent
```

```
session_page3 <- scrape(session3)
print(session_page3)
```

```
## {html_document}
## <html lang="en-us" class="a-no-js" data-19ax5a9jf="dingo">
## [1] <head>\n<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">\n<scri ...
## [2] <body class="a-m-us a-aui_72554-c a-aui_a11y_6_837773-t2 a-aui_amzn_img_959719-c a ...
```

```
# Find all div elements with the specified class
```

```
div_elements3 <- html_nodes(session_page3, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-col-4-of-24')
```

```
# Create empty vectors to store data
```

```
links3 <- character()
descriptions3 <- character()
prices3 <- character()
ratings3 <- character()
```

```
for (div_element3 in div_elements3[1:30]) {
```



```

# Find the a element with class="a-link-normal s-no-outline" and get the link

a_elem <- html_node(div_element3, 'a.a-link-normal.s-no-outline')
link3 <- ifelse(!is.na(a_elem), paste0("https://amazon.com", html_attr(a_elem, "href")), '')

# Find the span element with class="a-size-base-plus a-color-base a-text-normal" and get the title
description_elem <- html_node(div_element3, 'span.a-size-base-plus.a-color-base.a-text-normal')
description3 <- ifelse(!is.na(description_elem), html_text(description_elem), '')

# Find the span element with class="a-price-whole" and get the price
price_elem <- html_node(div_element3, 'span.a-price-whole')
price3 <- ifelse(!is.na(price_elem), html_text(price_elem), '')

# Find the span element with class="a-icon-alt" and get the ratings
rating_elem <- html_node(div_element3, 'span.a-icon-alt')
rating3 <- ifelse(!is.na(rating_elem), html_text(rating_elem), '')

rating3 <- gsub("out of 5 stars","",rating3, fixed=TRUE)

# Append data to vectors
links3 <- c(links3, link3)
descriptions3 <- c(descriptions3, description3)
prices3 <- c(prices3, price3)
ratings3 <- c(ratings3, rating3)
}

# Create a data frame
backpacksprod <- data.frame(Links = links3,
                           Descriptions = descriptions3,
                           Price = prices3,
                           Rating = ratings3)

backpacksprod

##
## 1
## 2
## 3
## 4
## 5
## 6
## 7
## 8
## 9
## 10
## 11
## 12 https://amazon.com/LOVEVOOK-Backpack-Backpacks-Waterproof-Black-White-Brown/dp/B0BPX6DNRG/ref=sr_
## 13
## 14
## 15
## 16
## 17
## 18

```

```
## 19
## 20
## 21
## 22
## 23
## 24
## 25
## 26
## 27
## 28
## 29
## 30      https://amazon.com/ZOMFELT-Backpack-Approved-Personal-Weekender/dp/B0DDCTXDBY/ref=sr_
## Descriptions Price Rating
## 1      17.      4.7
## 2      25.      4.7
## 3      81.      4.7
## 4      96.      4.8
## 5      17.      4.7
## 6      38.      4.6
## 7      71.      4.6
## 8      23.      4.8
## 9              4.6
## 10     90.
## 11     75.      4.7
## 12     29.      4.8
## 13     34.      4.6
## 14     65.      4.6
## 15     44.      4.7
## 16     29.      4.6
## 17     24.      4.1
## 18     23.      4.7
## 19              4.6
## 20     65.      4.7
## 21     27.      4.7
## 22     56.      4.8
## 23     28.      4.4
## 24    101.      4.8
## 25    245.      4.2
## 26     33.      4.4
## 27     26.      4.6
## 28    295.      4.5
## 29     25.      4.6
## 30     21.      4.7
```

```
write.csv(backpacksprod, "backpacksprod.csv")
```

```
library(rvest)
library(polite)
```

```
#product_5
# Read the HTML file
```

```
url4 <- "https://www.amazon.com/s?bbn=16225012011&rh=n%3A16225012011%2Cn%3A2619525011&dc&qid=1733049023"
```

```
session4 <- bow(url4,
  user_agent = "Educational")
```

```
session4
```

```
## <polite session> https://www.amazon.com/s?bbn=16225012011&rh=n%3A16225012011%2Cn%3A2619525011&dc&qid=
##   User-agent: Educational
##   robots.txt: 138 rules are defined for 5 bots
##   Crawl delay: 5 sec
##   The path is scrapable for this user-agent
```

```
session_page4 <- scrape(session4)
print(session_page4)
```

```
## {html_document}
## <html lang="en-us" class="a-no-js" data-19ax5a9jf="dingo">
## [1] <head>\n<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">\n<scri ...
## [2] <body class="a-m-us a-aui_72554-c a-aui_a1ly_6_837773-t2 a-aui_amzn_img_959719-c a ...
# Find all div elements with the specified class
div_elements4 <- html_nodes(session_page4, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-co
```

```
# Create empty vectors to store data
```

```
links4 <- character()
descriptions4 <- character()
prices4 <- character()
ratings4 <- character()
```

```
for (div_element4 in div_elements4) {
```

```
  # Find the a element with class="a-link-normal s-no-outline" and get the link
```

```
  a_ele <- html_node(div_element4, 'a.a-link-normal.s-no-outline')
  link4 <- ifelse(!is.na(a_ele), paste0("https://amazon.com", html_attr(a_ele, "href")), '')
```

```
  # Find the span element with class="a-size-base-plus a-color-base a-text-normal" and get the title
  description_ele <- html_node(div_element4, 'span.a-size-base-plus.a-color-base.a-text-normal')
  description4 <- ifelse(!is.na(description_ele), html_text(description_ele), '')
```

```
  # Find the span element with class="a-price-whole" and get the price
  price_ele <- html_node(div_element4, 'span.a-price-whole')
  price4 <- ifelse(!is.na(price_ele), html_text(price_ele), '')
```

```
  # Find the span element with class="a-icon-alt" and get the ratings
  rating_ele <- html_node(div_element4, 'span.a-icon-alt')
  rating4 <- ifelse(!is.na(rating_ele), html_text(rating_ele), '')
```

```
  rating4 <- gsub("out of 5 stars","",rating4, fixed=TRUE)
```

```
  # Append data to vectors
```

```
  links4 <- c(links4, link4)
  descriptions4 <- c(descriptions4, description4)
  prices4 <- c(prices4, price4)
  ratings4 <- c(ratings4, rating4)
```

```
}
```

```
# Create a data frame
```

```

appliancesprod <- data.frame(Links = links4,
                             Descriptions = descriptions4,
                             Price = prices4,
                             Rating = ratings4)

appliancesprod

```

```

##
## 1      https://amazon.com/Hamilton-Beach-Reciprocating-Stainless-Ergonomic/dp/B0BNQXXT2F/ref=sr_1_
## 2      https://amazon.com/FoodSaver-Vacuum-Custom-Sized-BPA-Free-Sealer/dp/B01D5TM5QE/ref=sr_1_2
## 3      https://amazon.com/FoodSaver-Vacuum-Sealer-Airtight-Storage/dp/B001U005B8/ref=sr_1_3
## 4      https://amazon.com/Tyzine-Pressure-Accessory-Efficient-Corkscrew/dp/B07MH2W7QS/ref=sr_1_4
## 5      https://amazon.com/Bonsenkitchen-Storage-Durable-Commercial-Customized/dp/B0C5BWRMQL/ref=sr_1_5
## 6      https://amazon.com/Premium-MakMeFre-Commercial-Puncture-Prevention/dp/B086DPSPNY/ref=sr_1_6
## 7      https://amazon.com/Syntus-Vacuum-Sealer-Commercial-Storage/dp/B0C1BB3PH3/ref=sr_1_7
## 8      https://amazon.com/Kubik-Letters-Premium-Dishwasher-Magnet/dp/B0BVLYL8SZ/ref=sr_1_8
## 9      https://amazon.com/Syntus-Vacuum-Sealer-Commercial-Storage/dp/B08MPLY84K/ref=sr_1_9
## 10     https://amazon.com/FoodSaver-Vacuum-Seal-Rolls-Multipack/dp/B0028JURDQ/ref=sr_1_10
## 11     https://amazon.com/Lemige-Replacement-Compatible-Cordless-970013-02/dp/B08DNCW4N8/ref=sr_1_11
## 12     https://amazon.com/Proctor-Silex-74312-Electric-Knives/dp/B0BNQXR1MQ/ref=sr_1_12
## 13     https://amazon.com/Homaider-Electric-Carving-Serving-Included/dp/B091LZV4TF/ref=sr_1_13
## 14     https://amazon.com/Prikoi-Electric-Knife-Easy-Slice-Ergonomic/dp/B0BXGDQCHQ/ref=sr_1_14
## 15     https://amazon.com/Cuisinart-CEK-41-electric-knife-Black/dp/B07H5T2T2S/ref=sr_1_15
## 16     https://amazon.com/Anewise-Replacement-Navigator-Professional-ZU503AMZ/dp/B01AFZAQY/ref=sr_1_16
## 17     https://amazon.com/FoodSaver-Airtight-Storage-Perfect-Cooking/dp/B001U0274Q/ref=sr_1_17
## 18     https://amazon.com/O2frepak-Vacuum-Puncture-Prevention-Vaccume/dp/B07BPTV4X3/ref=sr_1_18
## 19     https://amazon.com/Bonsenkitchen-Storage-Commercial-Textured-Customized/dp/B0C5BWGRHW/ref=sr_1_19
## 20     https://amazon.com/FoodSaver-1-Quart-BPA-Free-Multilayer-Construction/dp/B002TMRMHG/ref=sr_1_20
## 21     https://amazon.com/Gamesaver-Weston-Commercial-Puncture-Prevention/dp/B07TSBFJZ1/ref=sr_1_21
## 22     https://amazon.com/Bonsenkitchen-Quart-12-Commercial-Textured/dp/B0C5C1JTC4/ref=sr_1_22
## 23     https://amazon.com/Bonsenkitchen-Storage-Durable-Commercial-Customized/dp/B0BLVJM3YC/ref=sr_1_23
## 24     https://amazon.com/Bonsenkitchen-10-Commercial-Textured-Embossed/dp/B0BLTXWFNQ/ref=sr_1_24
##
## Descriptions Price Rating
## 1      24.      4.6
## 2      29.      4.8
## 3      18.      4.8
## 4      12.      4.4
## 5      19.      4.6
## 6      17.      4.6
## 7      20.      4.6
## 8      14.      4.8
## 9      19.      4.6
## 10     42.      4.8
## 11     19.      4.6
## 12     21.      4.6
## 13     49.      4.4
## 14     37.      4.3
## 15     49.      4.4
## 16     15.      4.7
## 17     29.      4.8
## 18     23.      4.7
## 19     12.      4.6
## 20      9.      4.7
## 21     18.      4.6
## 22     22.      4.7

```

```
## 23          13.    4.6
## 24          12.    4.7
```

```
write.csv(appliancesprod, "appliancesprod.csv")
```

```
#6.
```

```
#The data includes products from five Amazon categories: Automotive, Baby Products, Electronics, Backpacks, Appliances
```

```
#7.
```

```
#The data helps analyze prices and ratings to identify value-for-money categories, track market trends, and identify products that are overpriced or underpriced.
```

```
#8.
```

```
library(ggplot2)
```

```
library(dplyr)
```

```
# Read datasets
```

```
automotive <- read.csv("automotive.csv")
```

```
babyprod <- read.csv("babyprod.csv")
```

```
electronicsprod <- read.csv("electronicsprod.csv")
```

```
backpacksprod <- read.csv("backpacksprod.csv")
```

```
appliancesprod <- read.csv("appliancesprod.csv")
```

```
# Combine categories
```

```
automotive$Category <- "Automotive"
```

```
babyprod$Category <- "Baby Products"
```

```
electronicsprod$Category <- "Electronics"
```

```
backpacksprod$Category <- "Backpacks"
```

```
appliancesprod$Category <- "Appliances"
```

```
all_products <- rbind(automotive, babyprod, electronicsprod, backpacksprod, appliancesprod)
```

```
# Convert Price and Rating to numeric
```

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

```
all_products$Rating <- as.numeric(all_products$Rating)
```

```
#Price Distribution
```

```
ggplot(all_products, aes(x = Category, y = Price, fill = Category)) +
```

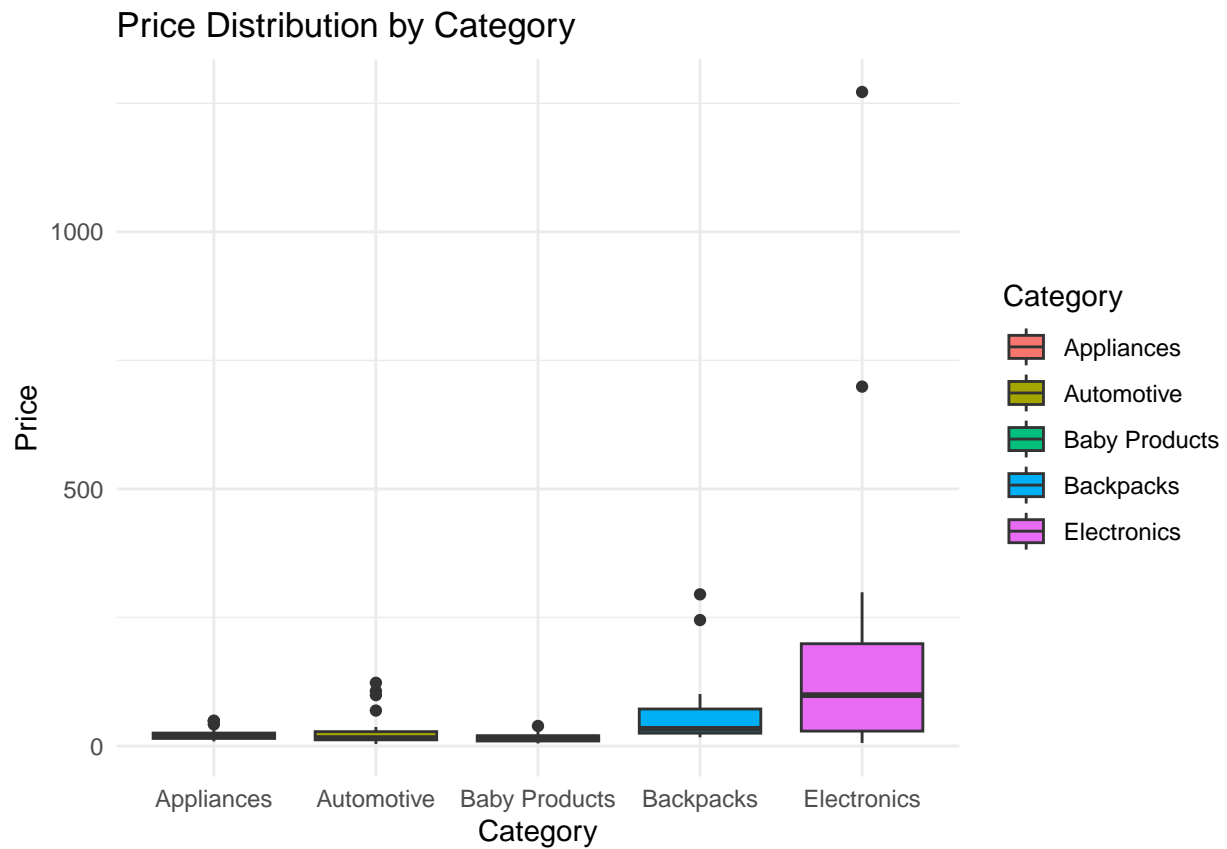
```
  geom_boxplot() +
```

```
  labs(title = "Price Distribution by Category", x = "Category", y = "Price") +
```

```
  theme_minimal()
```

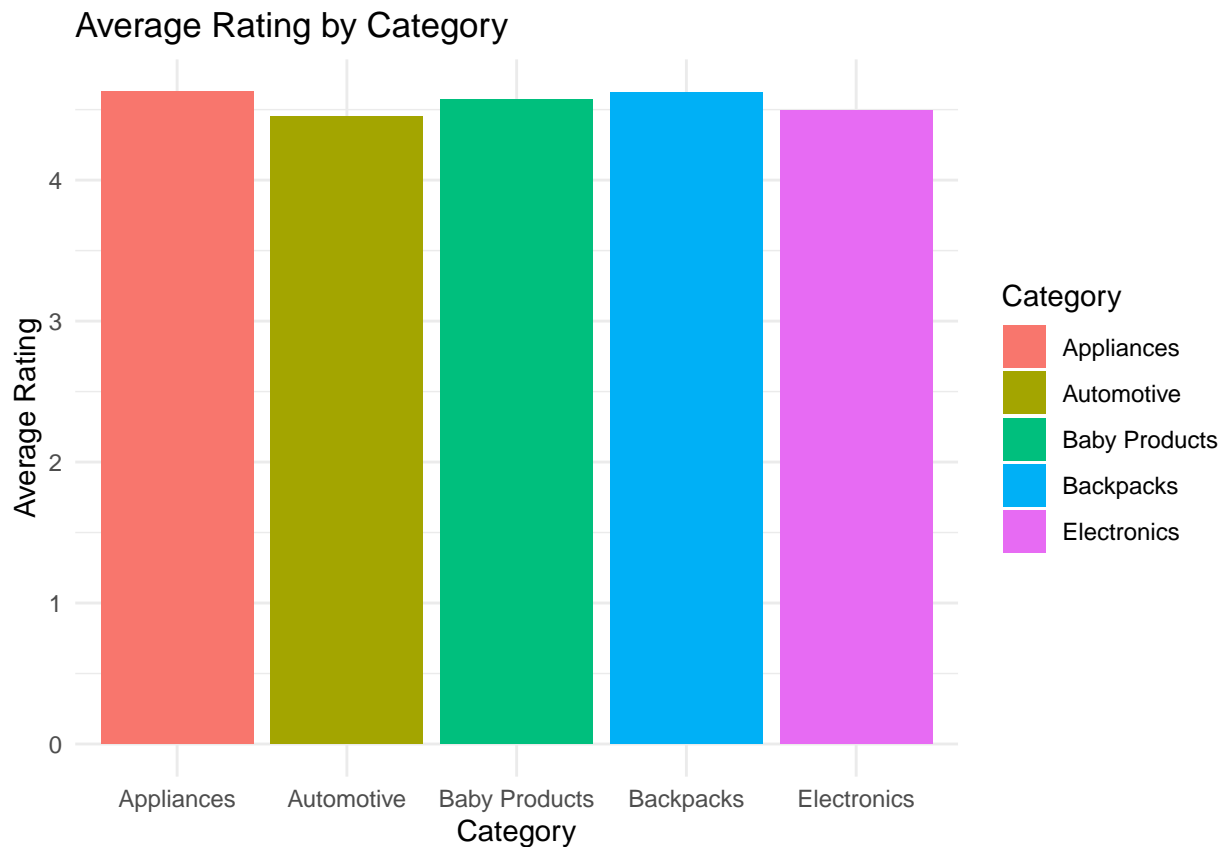
```
## Warning: Removed 2 rows containing non-finite outside the scale range
```

```
## (`stat_boxplot()`).
```



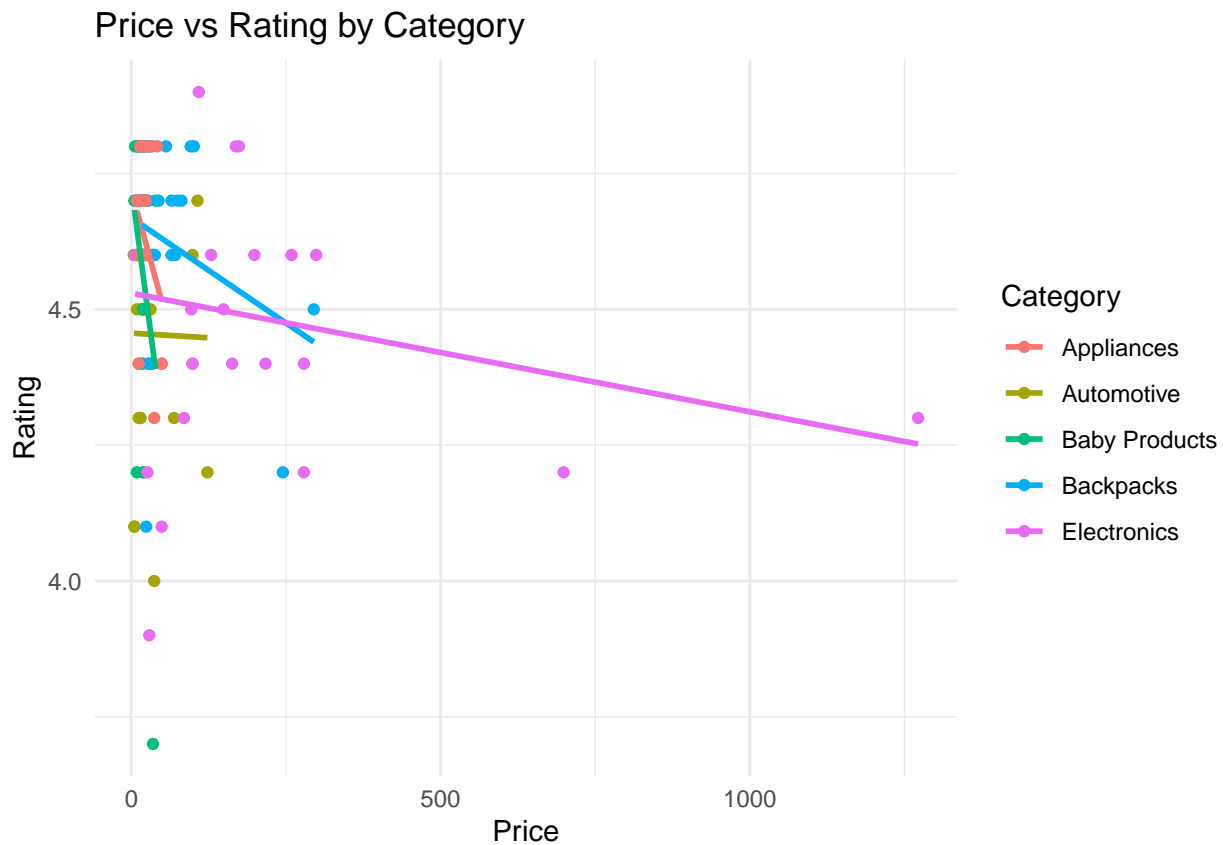
```
#Average Rating per Category
avg_rating <- all_products %>%
  group_by(Category) %>%
  summarise(Average_Rating = mean(Rating, na.rm = TRUE))

ggplot(avg_rating, aes(x = Category, y = Average_Rating, fill = Category)) +
  geom_bar(stat = "identity") +
  labs(title = "Average Rating by Category", x = "Category", y = "Average Rating") +
  theme_minimal()
```



```
#Correlation between Price and Rating
ggplot(all_products, aes(x = Price, y = Rating, color = Category)) +
  geom_point() +
  geom_smooth(method = "lm", se = FALSE) +
  labs(title = "Price vs Rating by Category", x = "Price", y = "Rating") +
  theme_minimal()

## `geom_smooth()` using formula = 'y ~ x'
## Warning: Removed 5 rows containing non-finite outside the scale range (`stat_smooth()`).
## Warning: Removed 5 rows containing missing values or values outside the scale range
## (`geom_point()`).
```

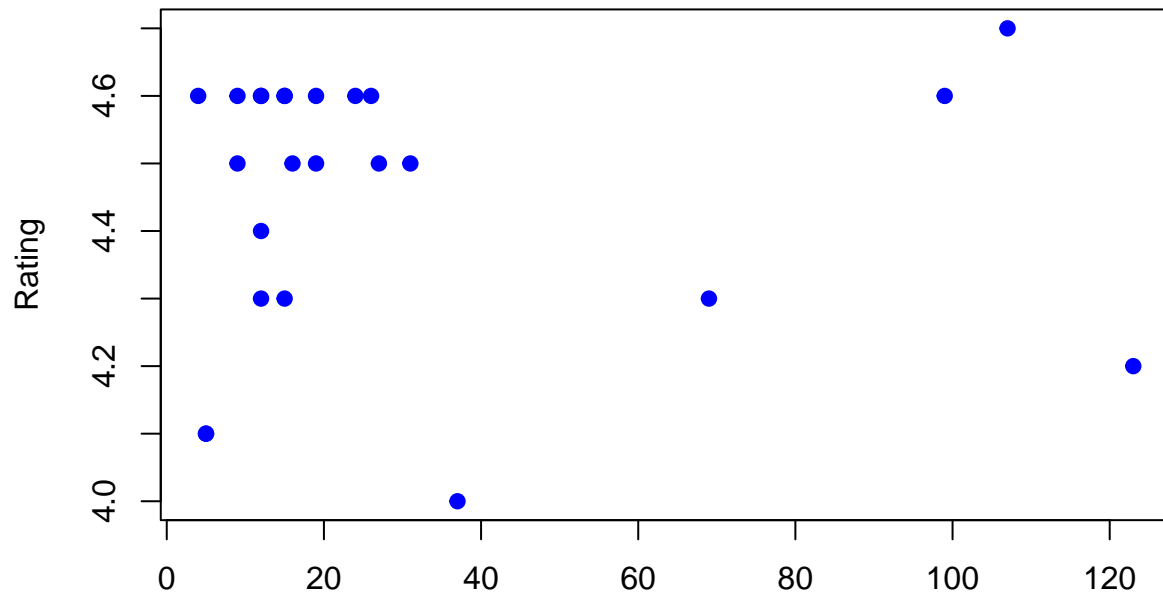


#We create graphs to show price distribution, average ratings per category, and the correlation between

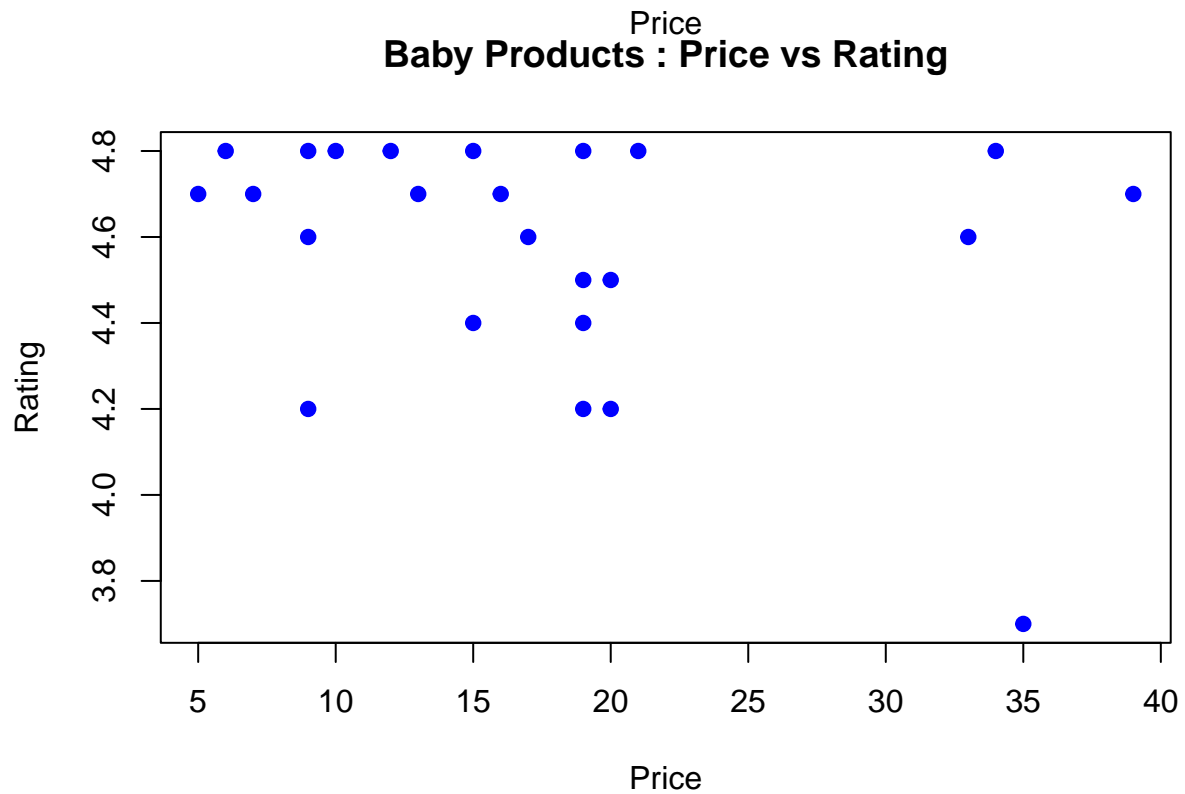
```
#9.
# Load data for each category
categories <- list(
  "Automotive" = read.csv("automotive.csv"),
  "Baby Products" = read.csv("babyprod.csv"),
  "Electronics" = read.csv("electronicsprod.csv"),
  "Backpacks" = read.csv("backpacksprod.csv"),
  "Appliances" = read.csv("appliancesprod.csv")
)

# Base R plots for each category
for (cat in names(categories)) {
  data <- categories[[cat]]
  plot(as.numeric(data$Price), as.numeric(data$Rating),
    main = paste(cat, ": Price vs Rating"),
    xlab = "Price",
    ylab = "Rating",
    pch = 19, col = "blue")
}
```


Automotive : Price vs Rating

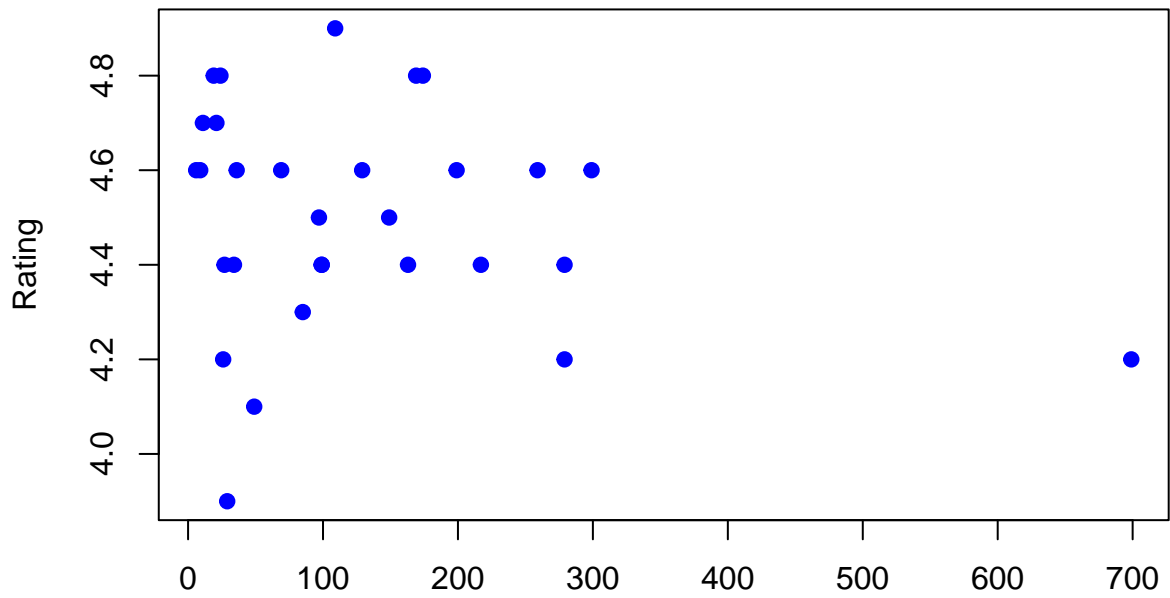


Baby Products : Price vs Rating

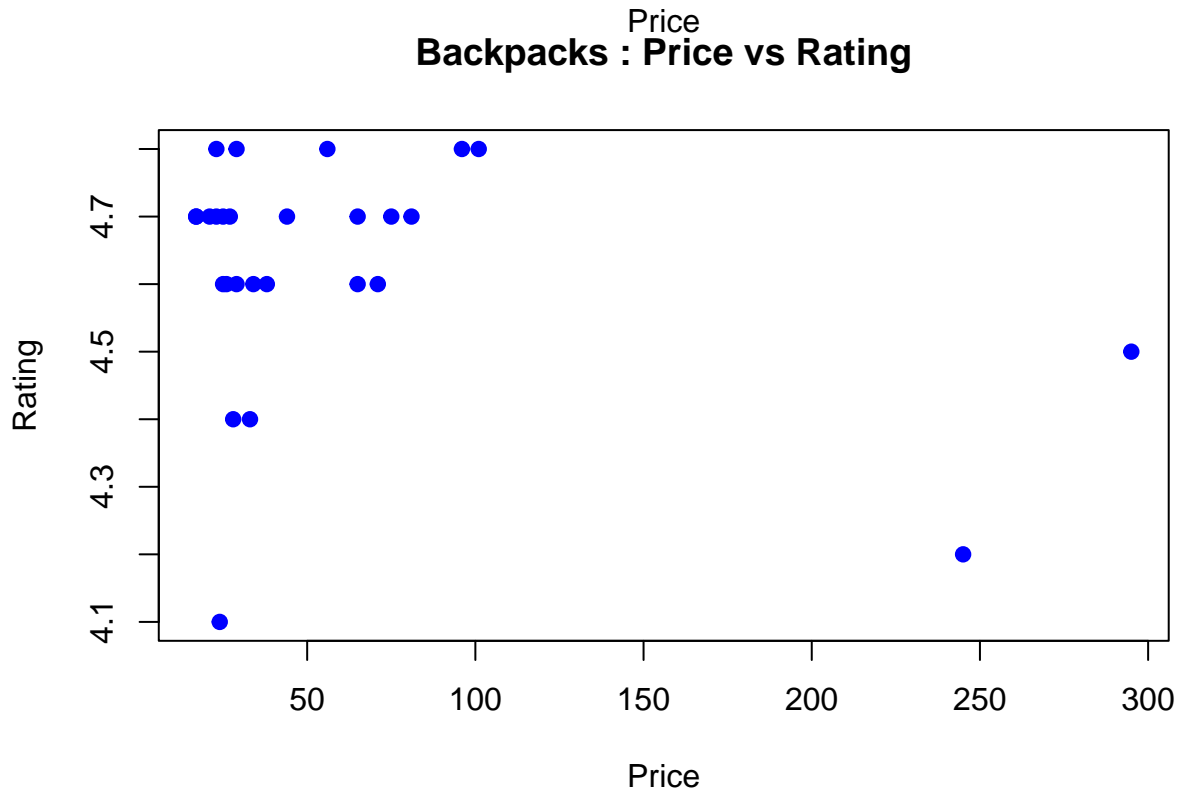


```
## Warning in plot(as.numeric(data$Price), as.numeric(data$Rating), main = paste(cat, : NAs
## introduced by coercion
```

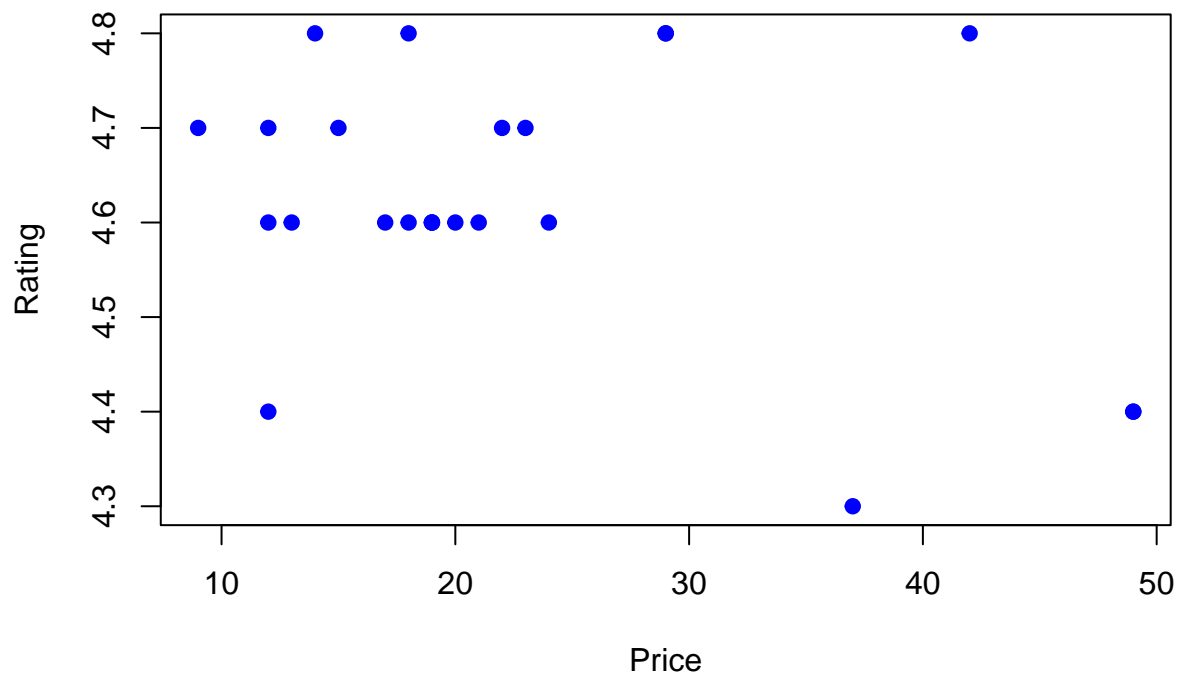
Electronics : Price vs Rating



Backpacks : Price vs Rating



Appliances : Price vs Rating



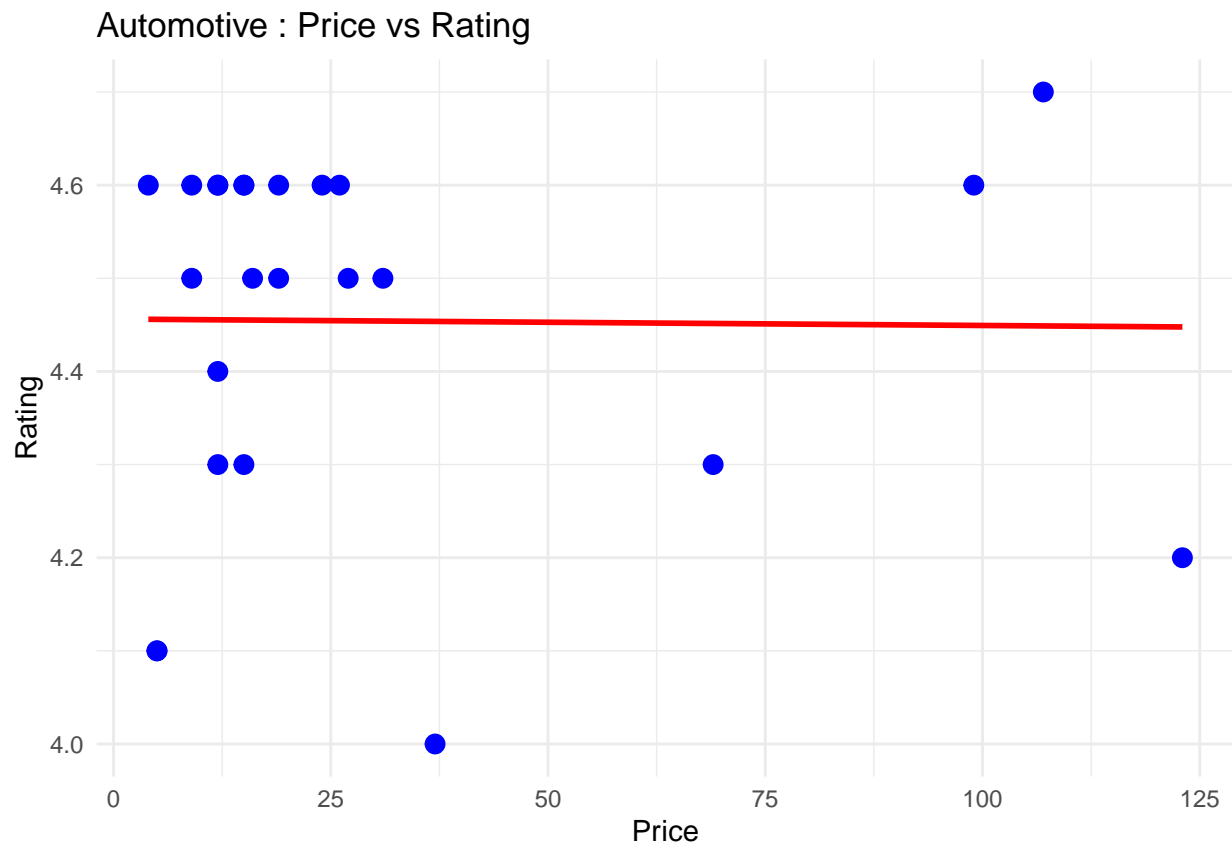
```
# Load ggplot2 package
library(ggplot2)

# Function to create ggplot for each category
plot_category <- function(data, category_name) {
  data$Price <- as.numeric(data$Price)
  data$Rating <- as.numeric(data$Rating)

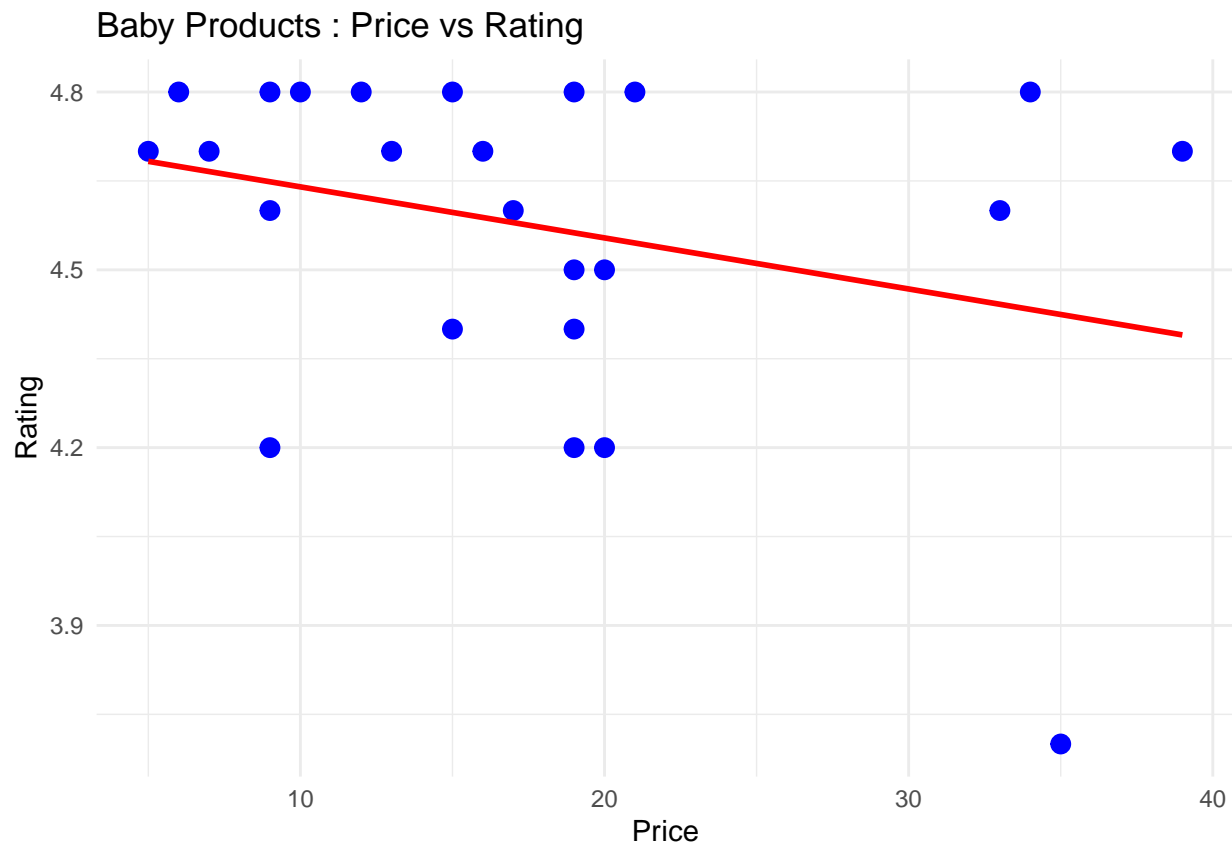
  ggplot(data, aes(x = Price, y = Rating)) +
    geom_point(color = "blue", size = 3) +
    geom_smooth(method = "lm", se = FALSE, color = "red") +
    labs(title = paste(category_name, ": Price vs Rating"),
         x = "Price",
         y = "Rating") +
    theme_minimal()
}

# Plot for each category
for (cat in names(categories)) {
  print(plot_category(categories[[cat]], cat))
}

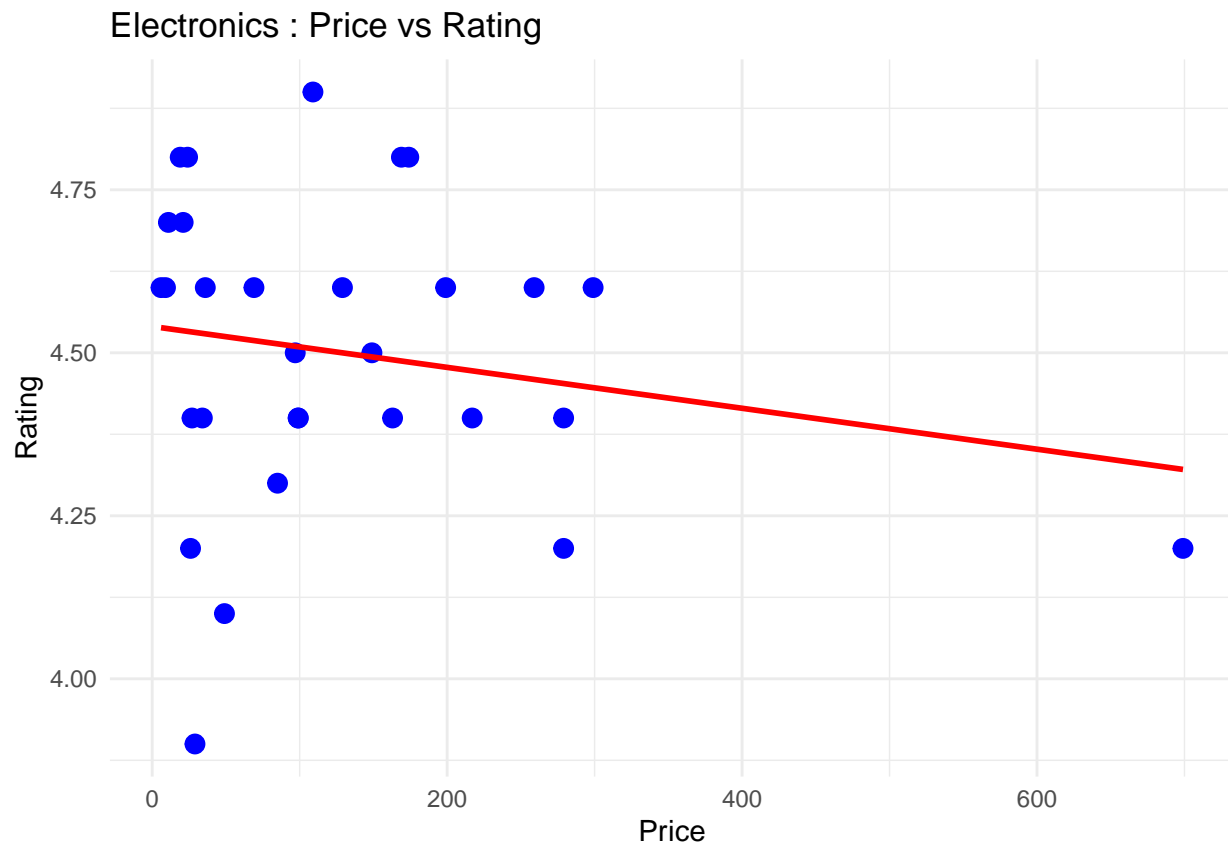
## `geom_smooth()` using formula = 'y ~ x'
```



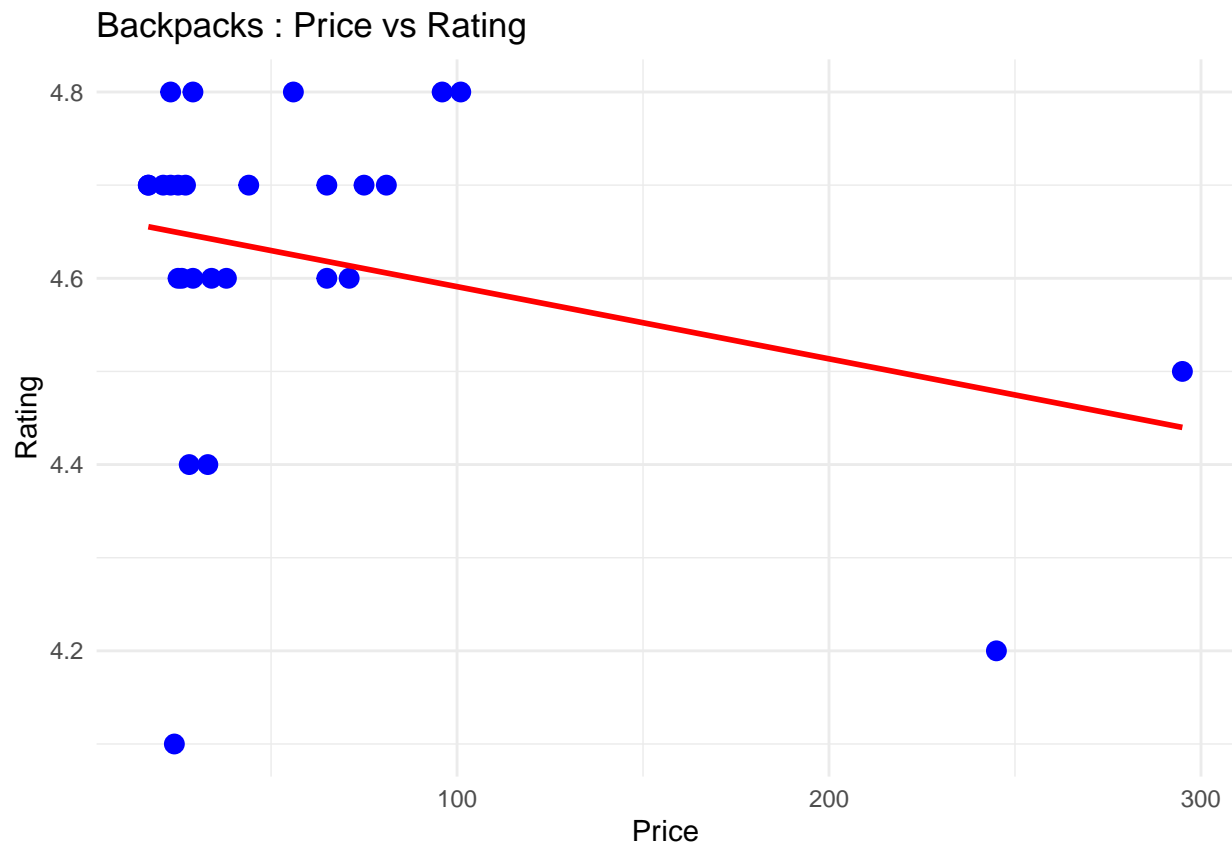
```
## `geom_smooth()` using formula = 'y ~ x'
```



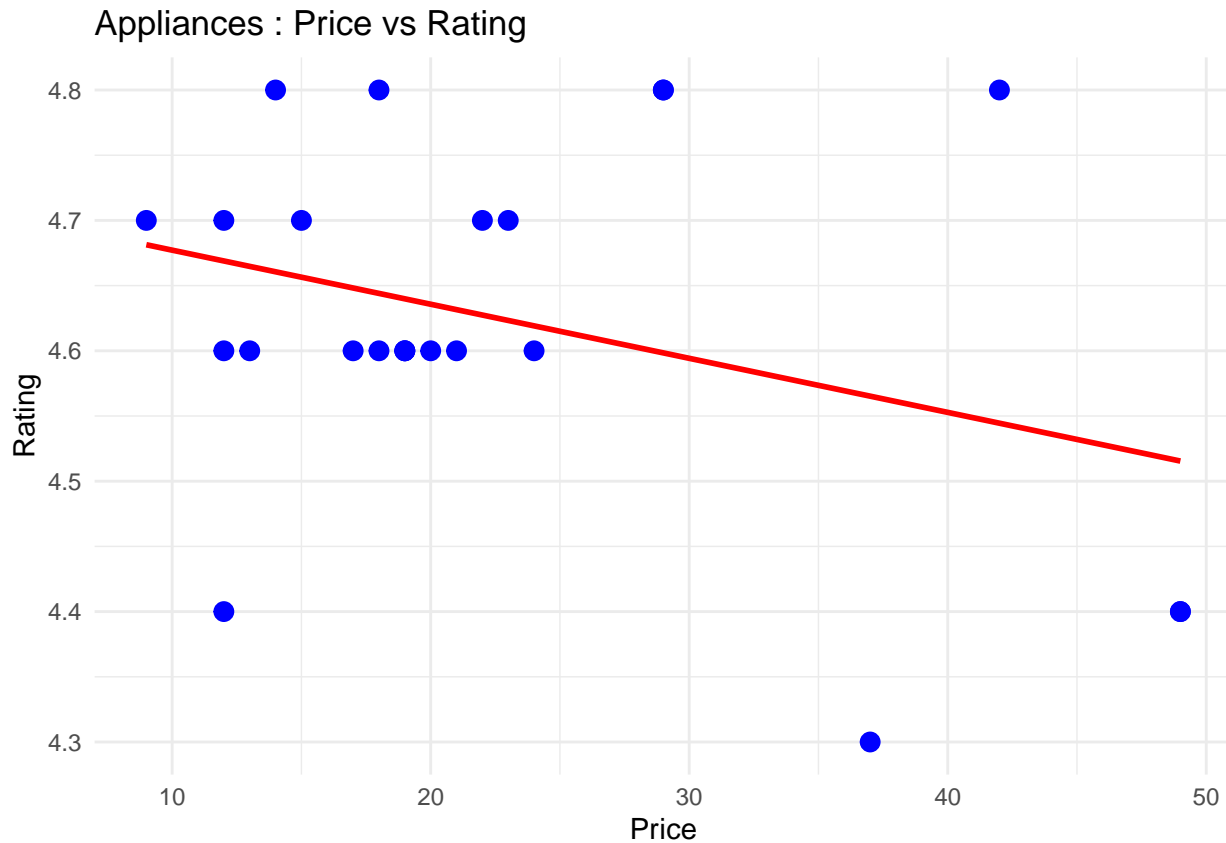
```
## Warning in plot_category(categories[[cat]], cat): NAs introduced by coercion
## `geom_smooth()` using formula = 'y ~ x'
## Warning: Removed 3 rows containing non-finite outside the scale range (`stat_smooth()`).
## Warning: Removed 3 rows containing missing values or values outside the scale range
## (`geom_point()`).
```



```
## `geom_smooth()` using formula = 'y ~ x'
## Warning: Removed 3 rows containing non-finite outside the scale range (`stat_smooth()`).
## Removed 3 rows containing missing values or values outside the scale range
## (`geom_point()`).
```



```
## `geom_smooth()` using formula = 'y ~ x'
```



```
#10.
# Rank products within each category
ranked_products <- all_products %>%
  group_by(Category) %>%
  mutate(Price_Rank = rank(Price, na.last = "keep"),
         Rating_Rank = rank(-Rating, na.last = "keep")) %>%
  arrange(Category, Price_Rank, Rating_Rank)

# Top 5 products per category
top_products <- ranked_products %>%
  group_by(Category) %>%
  slice_min(order_by = Price_Rank, n = 30)

print(top_products)
```

```
## # A tibble: 133 x 8
## # Groups:   Category [5]
##       X Links      Descriptions Price Rating Category Price_Rank Rating_Rank
##    <int> <chr>      <lg1>      <dbl> <dbl> <chr>      <dbl>      <dbl>
## 1    20 https://amazon.com/Fo~ NA         9    4.7 Applian~         1         8
## 2    24 https://amazon.com/Bo~ NA        12    4.7 Applian~         3         8
## 3    19 https://amazon.com/Bo~ NA        12    4.6 Applian~         3        15.5
## 4     4 https://amazon.com/Ty~ NA        12    4.4 Applian~         3        22
## 5    23 https://amazon.com/Bo~ NA        13    4.6 Applian~         5        15.5
## 6     8 https://amazon.com/Ku~ NA        14    4.8 Applian~         6         3
## 7    16 https://amazon.com/An~ NA        15    4.7 Applian~         7         8
## 8     6 https://amazon.com/Pr~ NA        17    4.6 Applian~         8        15.5
```



```
## 9      3 https://amazon.com/Fo~ NA      18      4.8 Applian~      9.5      3
## 10     21 https://amazon.com/Ga~ NA      18      4.6 Applian~      9.5     15.5
## # i 123 more rows
```

#Graphs help visualize pricing trends and the relationship between price and user satisfaction, providing

#5b.

```
library(rvest)
library(polite)

#product_1 with reviews
# Define the URL for Automotive category
url <- "https://www.amazon.com/s?bbn=2562090011&rh=n%3A2562090011%2Cn%3A15684181&dc&qid=1733043876&rnid="

session <- polite::bow(url, user_agent = "Educational")
session_page <- scrape(session)

# Find all div elements with the specified class
div_elements <- html_nodes(session_page, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-col-4-of-24')

# Create empty vectors to store data
product_data <- list() # List to store product-level data

for (div_element in div_elements) {
  # Find product link
  a_element <- html_node(div_element, 'a.a-link-normal.s-no-outline')
  link <- ifelse(!is.na(a_element), paste0("https://amazon.com", html_attr(a_element, "href")), '')

  # Find product description
  description_element <- html_node(div_element, 'span.a-size-base-plus.a-color-base.a-text-normal')
  description <- ifelse(!is.na(description_element), html_text(description_element), '')

  # Find product price
  price_element <- html_node(div_element, 'span.a-price-whole')
  price <- ifelse(!is.na(price_element), html_text(price_element), '')

  # Find product ratings
  rating_element <- html_node(div_element, 'span.a-icon-alt')
  rating <- ifelse(!is.na(rating_element), html_text(rating_element), '')
  rating <- gsub("out of 5 stars", "", rating, fixed = TRUE)

  # Scrape reviews for each product
  reviews <- character()
  if (link != '') {
    # Go to the reviews section of the product
    review_url <- paste0(link, "#customerReviews")
    tryCatch({
      review_page <- read_html(review_url)

      review_elements <- html_nodes(review_page, 'span[data-hook="review-body"] span')
      reviews <- html_text(review_elements)

      # Limit to the first 10 reviews
    }, error = function(e) {})
```


31 <https://amazon.com>
 ## 32 <https://amazon.com/MOLOSLEEVE-Keychain-Anti-Scratch-AirTags-Accessories/dp/BOCGDDXY11/ref=>
 ## 33 <https://amazon.com/Miracase-Holders-Universal-Automobile-Smartphones/dp/BOCHYBKQPM/ref=>
 ## 34 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 35 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 36 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 37 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 38 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 39 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 40 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 41 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 42 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 43 <https://amazon.com/Upgraded%E3%80%91Cleaning-Car-Universal-Detailing-Automotive/dp/B09VKPZRN4/ref=>
 ## 44 <https://amazon.com/Qifutan-Windshield-Dashboard-Automobile-Smartphone/dp/BOCHS69JW3/ref=>
 ## 45 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 46 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 47 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 48 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 49 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 50 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 51 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 52 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 53 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 54 <https://amazon.com/AstroAI-Portable-Compressor-Inflator-Motorcycle/dp/B07QR4Q42L/ref=>
 ## 55 <https://amazon.com/Tough-Headwear-Balaclava-Snowboarding-Motorcycling/dp/B019F18TX4/ref=>
 ## 56 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 57 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 58 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 59 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 60 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 61 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 62 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 63 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 64 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 65 <https://amazon.com/Holder-Keychain-Cases-Anti-Scratch-Silicone/dp/BOCQXC6WS5/ref=>
 ## 66 <https://amazon.com/NOCO-GENIUS1-Fully-Automatic-Temperature-Compensation/dp/B07W46BX31/ref=>
 ## 67 [https://](https://amazon.com)
 ## 68 <https://amazon.com/HOTOR-Car-Trash-Storage-Pockets/dp/B07VGRVKSN/ref=>
 ## 69 <https://amazon.com/Etel>
 ## 70 <https://amazon.com>
 ## 71 <https://amazon.com>
 ## 72 <https://amazon.com>
 ## 73 <https://amazon.com>
 ## 74 <https://amazon.com>
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 ## 81 <https://amazon.com>
 ## 82 <https://amazon.com>
 ## 83 <https://amazon.com>
 ## 84 <https://amazon.com>

| | | | | |
|--------|-------------|-------|--------|---|
| ## 85 | | | | https://amazon.com |
| ## 86 | | | | https://amazon.com |
| ## 87 | | | | https://amazon.com |
| ## 88 | | | | https://amazon.com |
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| ## 110 | | | | https://amazon.com |
| ## 111 | | | | https://amazon.com/AstroAI-Detachable-Scraper-Ergonomic-Removal/dp/B07V37GVY9/ref=ast_srb |
| ## 112 | | | | https://amazon.com |
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| ## 121 | | | | https://amazon.com |
| ## 122 | | | | https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/BOCM6KVC SX/ref=ast_srb |
| ## 123 | | | | https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/BOCM6KVC SX/ref=ast_srb |
| ## 124 | | | | https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/BOCM6KVC SX/ref=ast_srb |
| ## 125 | | | | https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/BOCM6KVC SX/ref=ast_srb |
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| ## 128 | | | | https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/BOCM6KVC SX/ref=ast_srb |
| ## 129 | | | | https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/BOCM6KVC SX/ref=ast_srb |
| ## 130 | | | | https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/BOCM6KVC SX/ref=ast_srb |
| ## 131 | | | | https://amazon.com/HOTOR-Trunk-Organizer-Car-Large-Capacity/dp/BOCM6KVC SX/ref=ast_srb |
| ## | Description | Price | Rating | |
| ## 1 | | 5. | 4.1 | |
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| ## 30 | 99. | 4.6 |
| ## 31 | 123. | 4.2 |
| ## 32 | 4. | 4.6 |
| ## 33 | 15. | 4.3 |
| ## 34 | 5. | 4.1 |
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I pruchased this to use in my vehicle to get into thos

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it's so versatile!Plus, it only takes minutes to inflate a car tire to the exact pressure. The 12V DC c
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5 minutes to inflate. After an off-road trip, it took approximately 20 minutes to restore all four tires
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I'm blown away!The entire process took me only 20 minutes, and the results are incredible. My headlights
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72 I used the CERAKOTE® Ceramic Headlight Restoration Kit on my 2007 Toyota Avalon, and I am thoroug
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my headlights looked like new! The kit is super easy to use, with no need for power tools, and the step
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just plug it into the OBD II port, and it immediately started communicating with my car's ECU. The disp
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sturdy and durable, ensuring it can withstand regular use. One of the standout features is the automatic
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I can quickly tuck it away when I need more trunk space. It's also super easy to clean, which is perfect
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## 131
print("Data saved to 'automotive_reviews.csv'")

## [1] "Data saved to 'automotive_reviews.csv'"

```

```

library(rvest)
library(polite)

#product_2 with reviews
# Define the URL for Baby Products category
url1 <- "https://www.amazon.com/s?bbn=16225005011&rh=n%3A16225005011%2Cn%3A165796011&dc&qid=1733045399&"

# Create a polite session
session1 <- bow(url1, user_agent = "Educational")
session_page1 <- scrape(session1)

# Find all div elements with the specified class
div_elements1 <- html_nodes(session_page1, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-c

# Create a list to store product data
product_data1 <- list()

for (div_element1 in div_elements1) {
  # Find product link
  a_elemen <- html_node(div_element1, 'a.a-link-normal.s-no-outline')
  link1 <- ifelse(!is.na(a_elemen), paste0("https://amazon.com", html_attr(a_elemen, "href")), '')

  # Find product description
  description_elemen <- html_node(div_element1, 'span.a-size-base-plus.a-color-base.a-text-normal')
  description1 <- ifelse(!is.na(description_elemen), html_text(description_elemen), '')

  # Find product price
  price_elemen <- html_node(div_element1, 'span.a-price-whole')
  price1 <- ifelse(!is.na(price_elemen), html_text(price_elemen), '')

  # Find product rating
  rating_elemen <- html_node(div_element1, 'span.a-icon-alt')
  rating1 <- ifelse(!is.na(rating_elemen), html_text(rating_elemen), '')
  rating1 <- gsub("out of 5 stars", "", rating1, fixed = TRUE)

  # Scrape reviews for each product
  reviews1 <- character()
  if (link1 != '') {
    # Access the product reviews section
    review_url1 <- paste0(link1, "#customerReviews")
    tryCatch({
      review_page1 <- read_html(review_url1)
      review_elements1 <- html_nodes(review_page1, 'span[data-hook="review-body"] span')
      reviews1 <- html_text(review_elements1)

      # Limit to the first 10 reviews
      reviews1 <- reviews1[1:min(10, length(reviews1))]
    }, error = function(e) {
      reviews1 <- rep(NA, 10) # Fill with NAs if there are no reviews
    })
  }

  # Append product data and reviews to the list

```

```

product_data1 <- append(product_data1, list(data.frame(
  Link = rep(link1, length(reviews1)),
  Description = rep(description1, length(reviews1)),
  Price = rep(price1, length(reviews1)),
  Rating = rep(rating1, length(reviews1)),
  Review = reviews1
)))
}

# Combine all product data into one data frame
baby_reviews_df <- do.call(rbind, product_data1)

# Save to CSV
write.csv(baby_reviews_df, "babyprod_reviews.csv", row.names = FALSE)

print("Data saved to 'babyprod_reviews.csv'")

```

```
## [1] "Data saved to 'babyprod_reviews.csv'"
```

```
baby_reviews_df
```

```

##
## 1          https://amazon.com/Munchkin-Float-Play-Bubbles-Count/dp/B00I3K25R0/ref=sr_1_1?d
## 2 https://amazon.com/Montessori-Sensory-Teething-Learning-Developmental/dp/B0CD42KQ3K/ref=sr_1_2?d
## 3 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 4 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 5 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 6 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 7 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 8 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 9 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 10 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 11 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 12 https://amazon.com/HUGGIES-Natural-Unscented-Sensitive-Water-Based/dp/B07SCL613T/ref=sr_1_3?d
## 13          https://amazon.com/WaterWipes-Sensitive-Wipes-Count-Packs/dp/B008KJEYLO/ref=sr_1_4?d
## 14 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 15 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 16 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 17 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 18 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 19 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 20 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 21 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 22 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 23 https://amazon.com/Unscented-Huggies-Simply-Fragrance-Free-Diaper/dp/B08QRKY3NJ/ref=sr_1_5?d
## 24          https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
## 25 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
## 26 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
## 27 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
## 28 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
## 29 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
## 30 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
## 31 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
## 32 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d

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33 https://amazon.com/Amazon-Family-Baby-Registry-Welcome/dp/B00N1NBOV2/ref=sr_1_7?d
 ## 34 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 35 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 36 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 37 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 38 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 39 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 40 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 41 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 42 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 43 https://amazon.com/Digital-Infrared-Baby-Thermometer-Forehead/dp/B0824XNJSW/ref=sr_1_8?d
 ## 44 https://amazon.com/Infinno-Rattles-Finder-Newborn-Infants/dp/B0B21ZM7LJ/ref=sr_1_9?d
 ## 45 https://amazon.com/Bluey-Sound-Effects-Plush-Multicolor/dp/B08S34YH92/ref=sr_1_10?di
 ## 46 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 47 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 48 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 49 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 50 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 51 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 52 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 53 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 54 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 55 https://amazon.com/Baby-Toys-Infant-Crawling-Crab/dp/B0B5XPFKC3/ref=sr_1_11?di
 ## 56 https://amazon.com/Suction-Spinner-Spinning-sensory-toddlers/dp/B08X1YQ2N9/ref=sr_1_12?di
 ## 57 https://amazon.com/Baby-Einstein-Soothe-Melodies-Newborns/dp/B07DM86Z43/ref=sr_1_13?di
 ## 58 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 59 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 60 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 61 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 62 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 63 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 64 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 65 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 66 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 67 https://amazon.com/Magicteam-Machine-Looping-Soothing-Function/dp/B07RWRJ4XW/ref=sr_1_14?di
 ## 68 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 69 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 70 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 71 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 72 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 73 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 74 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 75 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 76 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 77 https://amazon.com/Learning-Toddlers-Montessori-Counting-Christmas/dp/B0B46BN89X/ref=sr_1_15?di
 ## 78 https://amazon.com/Infinno-Activity-Center-Stimulate-Growth/dp/B07XC6YCC5/ref=sr_1_16?di
 ## 79 https://amazon.com/Yeeeasy-Inflatable-Infants-Toddlers-Development/dp/B09XHGG4B8/ref=sr_1_17?di
 ## 80 https://amazon.com/Projector-Christmas-Birthday-Stocking-Stufflers/dp/B09DY1VZJS/ref=sr_1_18?di
 ## 81 https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
 ## 82 https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
 ## 83 https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
 ## 84 https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
 ## 85 https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
 ## 86 https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di

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## 87      https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
## 88      https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
## 89      https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
## 90      https://amazon.com/Pampers-Wipes-Sensitive-Perfume-Multi/dp/B0BJ13K7FR/ref=sr_1_19?di
## 91      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 92      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 93      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 94      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 95      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 96      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 97      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 98      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 99      https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 100     https://amazon.com/Fisher-Price-Laugh-Light-up-Learning-Vacuum/dp/B079JWMS51/ref=sr_1_20?di
## 101     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 102     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 103     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 104     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 105     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 106     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 107     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 108     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 109     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 110     https://amazon.com/VTech-Turn-and-Learn-Driver/dp/B00Y53V80E/ref=sr_1_21?di
## 111     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 112     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 113     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 114     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 115     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 116     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 117     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 118     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 119     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 120     https://amazon.com/Baby-Einstein-Outstanding-Multi-Use-Chillable/dp/B094DSB19L/ref=sr_1_22?di
## 121     https://amazon.com/Crayola-Lights-Musical-Doodle-Toddler/dp/B077BS24FS/ref=sr_1_24?di
##      Description Price Rating
## 1          6.    4.8
## 2          9.    4.6
## 3         21.    4.8
## 4         21.    4.8
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## 12        21.    4.8
## 13        39.    4.7
## 14        16.    4.7
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| ## 78 | 15. | 4.4 |
| ## 79 | 9. | 4.2 |
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| ## 81 | 34. | 4.8 |
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| ## 91 | 17. | 4.6 |
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| ## 100 | 17. | 4.6 |
| ## 101 | 12. | 4.8 |
| ## 102 | 12. | 4.8 |
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| ## 107 | 12. | 4.8 |
| ## 108 | 12. | 4.8 |
| ## 109 | 12. | 4.8 |
| ## 110 | 12. | 4.8 |
| ## 111 | 5. | 4.7 |
| ## 112 | 5. | 4.7 |
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| ## 121 | 19. | 4.4 |
| ## | | |
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not too thin, so they don't tear, but also not too thick, making them easy to maneuver for quick clean-

a true essential!

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I'VE BEEN USING THIS PARTICULAR HUGGIES WIPES FOR SEVERAL YEARS. I used to use a differen

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-but do that first if you think they might be intimidated. Otherwise VERY CUTE! Some people use it for c

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by a hoola hoop for the crab to have boundaries and help with neck movement and mobility during tummy t

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66 One of the best items I've ever spent money on. I was having trouble sleeping at one point, and :
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everything you want in a baby wipe. We feel good knowing we're using a product that's safe for our baby
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everything we look for in baby wipes. Highly recommend them for parents looking for a reliable wipe for
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library(rvest)
library(polite)

#product_3 with reviews
# Define the URL for Electronics category
url2 <- "https://www.amazon.com/s?bbn=16225007011&rh=n%3A16225007011%2Cn%3A172282&dc&qid=1733047215&rnid=283155"

# Create a polite session
session2 <- bow(url2, user_agent = "Educational")
session_page2 <- scrape(session2)

# Find all div elements with the specified class
div_elements2 <- html_nodes(session_page2, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-c')

# Create a list to store product data
product_data2 <- list()

for (div_element2 in div_elements2) {
  # Find product link
  a_eleme <- html_node(div_element2, 'a.a-link-normal.s-no-outline')
  link2 <- ifelse(!is.na(a_eleme), paste0("https://amazon.com", html_attr(a_eleme, "href")), '')

  # Find product description
  description_eleme <- html_node(div_element2, 'span.a-size-base-plus.a-color-base.a-text-normal')
  description2 <- ifelse(!is.na(description_eleme), html_text(description_eleme), '')

  # Find product price
  price_eleme <- html_node(div_element2, 'span.a-price-whole')
  price2 <- ifelse(!is.na(price_eleme), html_text(price_eleme), '')

  # Find product rating
  rating_eleme <- html_node(div_element2, 'span.a-icon-alt')
  rating2 <- ifelse(!is.na(rating_eleme), html_text(rating_eleme), '')
  rating2 <- gsub("out of 5 stars", "", rating2, fixed = TRUE)

  # Scrape reviews for each product
  reviews2 <- character()
  if (link2 != '') {

```

```

# Access the product reviews section
review_url2 <- paste0(link2, "#customerReviews")
tryCatch({
  review_page2 <- read_html(review_url2)
  review_elements2 <- html_nodes(review_page2, 'span[data-hook="review-body"] span')
  reviews2 <- html_text(review_elements2)

  # Limit to the first 10 reviews
  reviews2 <- reviews2[1:min(10, length(reviews2))]
}, error = function(e) {
  reviews2 <- rep(NA, 10) # Fill with NAs if there are no reviews
})
}

# Append product data and reviews to the list
product_data2 <- append(product_data2, list(data.frame(
  Link = rep(link2, length(reviews2)),
  Description = rep(description2, length(reviews2)),
  Price = rep(price2, length(reviews2)),
  Rating = rep(rating2, length(reviews2)),
  Review = reviews2
)))
}

# Combine all product data into one data frame
electronics_reviews_df <- do.call(rbind, product_data2)

# Save to CSV
write.csv(electronics_reviews_df, "electronicsprod_reviews.csv", row.names = FALSE)

print("Data saved to 'electronicsprod_reviews.csv'")

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## [1] "Data saved to 'electronicsprod_reviews.csv'"
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```
electronics_reviews_df
```

```

##
## 1 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 2 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 3 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 4 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 5 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 6 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 7 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 8 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 9 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 10 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 11 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
## 12 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3BfYXRmX2Jyb3
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<https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU30j>

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## 104 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 105 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
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## 108 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 109 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 110 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 111 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 112 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 113 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 114 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 115 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 116 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 117 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 118 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 119 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 120 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 121 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
## 122 https://amazon.com/sspa/click?ie=UTF8&spc=MToxNDU1MjY4MzA3OTk5MTU3OjE3MzM5MTIzMzA6c3Bj
##      Description  Price Rating
## 1          699.    4.2
## 2           99.    4.4
## 3          129.    4.6

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| ## 4 | 129. | 4.6 |
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| ## 10 | 129. | 4.6 |
| ## 11 | 129. | 4.6 |
| ## 12 | 129. | 4.6 |
| ## 13 | 149. | 4.5 |
| ## 14 | 69. | 4.6 |
| ## 15 | 169. | 4.8 |
| ## 16 | 36. | 4.6 |
| ## 17 | 6. | 4.6 |
| ## 18 | 1,272. | 4.3 |
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| ## 22 | 1,272. | 4.3 |
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| ## 24 | 1,272. | 4.3 |
| ## 25 | 1,272. | 4.3 |
| ## 26 | 1,272. | 4.3 |
| ## 27 | 1,272. | 4.3 |
| ## 28 | 163. | 4.4 |
| ## 29 | 163. | 4.4 |
| ## 30 | 163. | 4.4 |
| ## 31 | 163. | 4.4 |
| ## 32 | 163. | 4.4 |
| ## 33 | 163. | 4.4 |
| ## 34 | 163. | 4.4 |
| ## 35 | 163. | 4.4 |
| ## 36 | 163. | 4.4 |
| ## 37 | 163. | 4.4 |
| ## 38 | 26. | 4.2 |
| ## 39 | 99. | 4.4 |
| ## 40 | 85. | 4.3 |
| ## 41 | 199. | |
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| ## 89 | 174. | 4.8 |
| ## 90 | 217. | 4.4 |
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my camera handles it effortlessly. The durability of this card is also impressive; it's temperature-proof.
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it will elevate your creativity and passion for photography and videography to new heights!
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58 In the ever-growing world of digital storage, finding a memory card that balances performance, r
it is waterproof, shockproof, temperature-proof, and X-ray-proof. This ruggedness ensures that your val
simply insert it into your device, and it's ready to go. The card maintains consistent performance over
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installation was simple, and the card has been working smoothly. The 100MB/s read speed and reliable st
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it's a noticeable difference from my previous drive. Whether you're gaming, editing large files, or runn
speed, reliability, and capacity. If you're serious about gaming, content creation, or simply want to in
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but this behemoth has left me wondering how I ever managed with smaller capacities!**Pros:**1. **Massive
this card withstands extreme temperatures, water, and shocks, ensuring your data remains safe.4. **Comp
invest in this incredible microSDXC card! The SanDisk 1.5TB Ultra is a worthy addition to any tech enth
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```
library(rvest)
library(polite)

#product_4 with reviews
# Define the URL for Backpacks category
url3 <- "https://www.amazon.com/s?i=fashion-luggage&bbn=16225017011&rh=n%3A7141123011%2Cn%3A16225017011"

# Create a polite session
session3 <- bow(url3, user_agent = "Educational")
session_page3 <- scrape(session3)

# Find all div elements with the specified class
div_elements3 <- html_nodes(session_page3, 'div.sg-col-4-of-24.sg-col-4-of-12.s-result-item.s-asin.sg-c

# Create a list to store product data
product_data3 <- list()
```

```

for (div_element3 in div_elements3[1:30]) {
  # Find product link
  a_elem <- html_node(div_element3, 'a.a-link-normal.s-no-outline')
  link3 <- ifelse(!is.na(a_elem), paste0("https://amazon.com", html_attr(a_elem, "href")), '')

  # Find product description
  description_elem <- html_node(div_element3, 'span.a-size-base-plus.a-color-base.a-text-normal')
  description3 <- ifelse(!is.na(description_elem), html_text(description_elem), '')

  # Find product price
  price_elem <- html_node(div_element3, 'span.a-price-whole')
  price3 <- ifelse(!is.na(price_elem), html_text(price_elem), '')

  # Find product rating
  rating_elem <- html_node(div_element3, 'span.a-icon-alt')
  rating3 <- ifelse(!is.na(rating_elem), html_text(rating_elem), '')
  rating3 <- gsub("out of 5 stars", "", rating3, fixed = TRUE)

  # Scrape reviews for each product
  reviews3 <- character()
  if (link3 != '') {
    # Access the product reviews section
    review_url3 <- paste0(link3, "#customerReviews")
    tryCatch({
      review_page3 <- read_html(review_url3)
      review_elements3 <- html_nodes(review_page3, 'span[data-hook="review-body"] span')
      reviews3 <- html_text(review_elements3)

      # Limit to the first 10 reviews
      reviews3 <- reviews3[1:min(10, length(reviews3))]
    }, error = function(e) {
      reviews3 <- rep(NA, 10) # Fill with NAs if there are no reviews
    })
  }

  # Append product data and reviews to the list
  product_data3 <- append(product_data3, list(data.frame(
    Link = rep(link3, length(reviews3)),
    Description = rep(description3, length(reviews3)),
    Price = rep(price3, length(reviews3)),
    Rating = rep(rating3, length(reviews3)),
    Review = reviews3
  )))
}

# Combine all product data into one data frame
backpacks_reviews_df <- do.call(rbind, product_data3)

# Save to CSV
write.csv(backpacks_reviews_df, "backpacksprod_reviews.csv", row.names = FALSE)

print("Data saved to 'backpacksprod_reviews.csv'")

```

```
## [1] "Data saved to 'backpacksprod_reviews.csv'"
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backpacks_reviews_df
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## 46 https://amazon.com/LOVEVOOK-Backpack-Backpacks-Waterproof-Black-White-Brown/dp/B0BPX6DNRG/ref=sr
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## 47 https://amazon.com/LOVEVOOK-Backpack-Backpacks-Waterproof-Black-White-Brown/dp/B0BPX6DNRG/ref=sr
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## 48 https://amazon.com/LOVEVOOK-Backpack-Backpacks-Waterproof-Black-White-Brown/dp/B0BPX6DNRG/ref=sr
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## 49 https://amazon.com/LOVEVOOK-Backpack-Backpacks-Waterproof-Black-White-Brown/dp/B0BPX6DNRG/ref=sr
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## 50 https://amazon.com/LOVEVOOK-Backpack-Backpacks-Waterproof-Black-White-Brown/dp/B0BPX6DNRG/ref=sr
```

51 <https://amazon.com/LOVEV00K-Backpack-Backpacks-Waterproof-Black-White-Brown/dp/BOBPX6DNRG/ref=sr>
52 <https://amazon.com/LOVEV00K-Backpack-Backpacks-Waterproof-Black-White-Brown/dp/BOBPX6DNRG/ref=sr>
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135 <https://amazon.com/ZOMFELT-Backpack-Approved-Personal-Weekender/dp/B0DDCTXDBY/ref=sr>

| ## | Description | Price | Rating |
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| ## 1 | | 25. | 4.7 |
| ## 2 | | 96. | 4.8 |
| ## 3 | | 17. | 4.7 |
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34 Years ago, I realized that life is much better and it is totally worth it to get the best quality,

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