RWorksheet_5a

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2024-11-27

Extracting Amazon Product Reviews

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

```r
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
```

```r
library(stringr)
library(ggplot2)
```

```r
urls <- c('https://www.amazon.com/s?i=specialty-aps&bbn=16225007011&rh=n%3A16225007011%2Cn%3A172635&ref=

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

```r
df <- list()

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

ProductName[[i]] <- webpage %>%
  html_nodes('.a-size-base-plus.a-color-base.a-text-normal') %>%
  html_text() %>%
```

```
  head(30)

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


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


Reviews[[i]] <-  webpage %>%
  html_nodes('.a-size-base.s-underline-text') %>%
  html_text() %>%
  head(30)
}
```

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

```
ProductName

## [[1]]
##  [1] "HP ENVY Inspire 7958e Wireless All-in-One Color Inkjet Printer, Print, scan, copy, Duplex prin
##  [2] "Canon PIXMA TS6420a All-in-One Wireless Inkjet Printer [Print,Copy,Scan], Black, Works with Al
##  [3] "HP Smart Tank 5101 Wireless All-in-One Ink Tank Printer with 2 years of ink included,Print, sc
##  [4] "Canon PIXMA PRO-200 Wireless Professional Inkjet Photo Printer"
##  [5] "Brother MFC-L2820DW Wireless Compact Monochrome All-in-One Laser Printer with Copy, Scan and F
##  [6] "Nelko Label Maker Machine with Tape, PM220 Bluethooth Label Printer, 2 Inch Portable Thermal P
##  [7] "Memoking Print Pods Mini Printer – Sticker Printer Mini Thermal Printer T02 Sticker Maker Mach
##  [8] "Mvgges Bluetooth Thermal Shipping Label Printer, 4X6 Label Printer for Shipping Packages Small
##  [9] "POLONO PM220S Label Maker Machine with Tape, 2 Inch Bluethooth Portable Thermal Label Printer
## [10] "Thermal Shipping Label Printer Bluetooth, 4x6 Label Printer for Shipping Packages, Support iOS
## [11] "Brother Monochrome Laser Printer, Multifunction All-in-One Printer, MFC-L5915DW, Wireless Netw
## [12] "DYMO Label Printer | Label Writer 450 Twin Turbo Direct Thermal Label Printer, Fast Printing,
## [13] "Label Maker Machine with Tape – Thermal Label Printer Bluetooth Label Maker Machine, Mini Prin
## [14] "MUNBYN Bluetooth Thermal Label Printer, 130B Wireless 4x6 Shipping Label Printer for Shipping
## [15] "HPRT Photo Printer 4x6,+20 Sheets&1ribbon,Wi-Fi Wireless Instant Picture Printer for iPhone, A
## [16] "Canon PIXMA TS3720 Wireless All-in-One Printer (6671C022)"
## [17] "Bluetooth Thermal Shipping Label Printer, 4x6 Label Printer for Small Business for Shipping Pa
## [18] "Brother FAX-2840 High Speed Mono Laser Fax Machine, Dark/Light Gray – FAX2840"
## [19] "HP OfficeJet 9012e All-in-One Color Inkjet Wireless Printer Scanner Copier Fax with 6-month In
## [20] "NIIMBOT Label Maker Machine D110 Label Printer Tape Included Portable Wireless Connection Mult
## [21] "P21 Label Maker Machine with Tape, Bluetooth Label Printer Thermal Mini Label Makers with Buil
## [22] "Brother Printer Wireless, Fast Electronic Label (QL810W), Black"
## [23] "Phomemo Portable Thermal Printer – [Upgrade] Portable Printer Wireless for Travel Compatible w
## [24] "Pocket Printer for iPhone/Android, Wireless Mini Sticker Printer with 10 Rolls Thermal Paper,
##
## [[2]]
##  [1] "Mac Book Pro Charger – 118W USB C Charger Fast Charger Compatible with USB C Port MacBook pro/
##  [2] "Anker 553 USB-C Hub, 8-in-1 USB C Dock, Dual 4K HDMI USB C to USB Adapter, 1 Gbps Ethernet USB
##  [3] "Taygeer Travel Backpack for Women, Carry On Backpack with USB Charging Port & Shoe Pouch, TSA
##  [4] "BESIGN LS03 Aluminum Laptop Stand, Ergonomic Detachable Computer Stand, Riser Holder Notebook
```

```
##  [5] "MATEIN Travel Laptop Backpack, Business Anti Theft Slim Sturdy Laptops Backpack with USB Charg
##  [6] "Charger for MacBook Air MacBook Pro 13 14 15 16 inch 2024 2023 2022 2021 2020, M1 M2 M3 M4 Lapt
##  [7] "SHRRADOO Extra Large 50L Travel Laptop Backpack with USB Charging Port, College Backpack Airli
##  [8] "65W Surface Pro Laptop Charger for Microsoft Surface Pro 10, 9, 8, 7+, 7, 6, 5, 4, 3, X, Windo
##  [9] "85W Mac Book Pro Charger, Replacement AC 85w 2T-Tip Connector Power Adapter,Laptop Charger Comp
## [10] "Dell WD19S 180W Docking Station (130W Power Delivery) USB-C, HDMI, Dual DisplayPort, Black"
## [11] "HP USB-C Dock G5-8 in 1 Adapter for Both USB-C and Thunderbolt-Enabled Laptops, PCs, & Noteboo
## [12] "Dell 65W USB-C Laptop Charger for XPS and Latitude 5000 - Power Cord Included"
## [13] "Charger for HP Laptop Computer 65W 45W Smart Blue Tip Power Adapter"
## [14] "13 in 1 USB C Docking Station - Dual Monitor, Triple Display, 8 USB C/A Ports, Ethernet, Audio
## [15] "CalDigit TS4 Thunderbolt 4 Dock - 18 Ports, 98W Charging, 40Gb/s Thunderbolt 4, USB-A/C, 2.5Gb
## [16] "havit HV-F2056 15.6\"-17\" Laptop Cooler Cooling Pad - Slim Portable USB Powered (3 Fans), Bla
## [17] "Adjustable Laptop Stand for Desk, Metal Foldable Laptop Riser, Portable Laptop Holder Mount, V
## [18] "Lamicall Adjustable Laptop Stand, Portable Laptop Riser, Aluminum Laptop Stand for Desk Foldab
## [19] "Anker 100W USB C Charger Block (GaN II), 3 Port Fast Compact Wall Charger for MacBook, Dell XPS
## [20] "MOSISO Compatible with MacBook Air 13 inch Case 2024 2023 2022 M3 A3113 M2 A2681 Touch ID, Pla
## [21] "tomtoc Travel Backpack 40L, TSA Friendly Flight Approved Carry-on Luggage Hand Water-resistant
## [22] "65W USB C Laptop Charger Replacement for Lenovo Thinkpad/Yoga/Chromebook, ADLX65YDC2A Lenovo La
## [23] "Charger for Dell Laptop Computer 65W 45W Round Tip Power Adapter"
## [24] "Laptop Backpack,Business Travel Anti Theft Slim Durable Laptops Backpack with USB Charging Por
##
## [[3]]
##  [1] "Seagate Portable 2TB External Hard Drive HDD - USB 3.0 for PC, Mac, PlayStation, & Xbox -1-Yea
##  [2] "AMD Ryzen 7 7800X3D 8-Core, 16-Thread Desktop Processor"
##  [3] "Seagate Storage Expansion Card 2TB Solid State Drive - NVMe SSD for Xbox Series X|S, Quick Resu
##  [4] "SanDisk 2TB Extreme Portable SSD - Up to 1050MB/s, USB-C, USB 3.2 Gen 2, IP65 Water and Dust R
##  [5] "AMD Ryzen 7 5700X 8-Core, 16-Thread Unlocked Desktop Processor"
##  [6] "WD 20TB Elements Desktop External Hard Drive, USB 3.0 drive for plug-and-play storage - WDBWLG
##  [7] "SAMSUNG 990 EVO SSD 1TB, PCIe Gen 4x4, Gen 5x2 M.2 2280 NVMe Internal Solid State Drive, Speeds
##  [8] "SAMSUNG T7 Portable SSD, 1TB External Solid State Drive, Speeds Up to 1,050MB/s, USB 3.2 Gen 2
##  [9] "AMD Ryzen 5 7600X 6-Core, 12-Thread Unlocked Desktop Processor"
## [10] "AMD Ryzen 5 5600X 6-core, 12-Thread Unlocked Desktop Processor with Wraith Stealth Cooler"
## [11] "AMD Ryzen 7 7700X 8-Core, 16-Thread Unlocked Desktop Processor"
## [12] "MSI Gaming GeForce RTX 3060 12GB 15 Gbps GDRR6 192-Bit HDMI/DP PCIe 4 Torx Twin Fan Ampere OC G
## [13] "CORSAIR VENGEANCE LPX DDR4 RAM 32GB (2x16GB) 3200MHz CL16-20-20-38 1.35V Intel AMD Desktop Comp
## [14] "AMD Ryzen 7 5700X3D 8-Core, 16-Thread Desktop Processor"
## [15] "SAMSUNG T7 Shield 4TB Portable SSD - 1050MB/s, Rugged, Water & Dust Resistant, for Content Crea
## [16] "Corsair RM850e (2023) Fully Modular Low-Noise Power Supply - ATX 3.0 & PCIe 5.0 Compliant - 105
## [17] "CORSAIR RM850x Fully Modular ATX Power Supply - 80 PLUS Gold - Low-Noise Fan - Zero RPM - Blac
## [18] "Seagate BarraCuda 8TB Internal Hard Drive HDD - 3.5 Inch Sata 6 Gb/s 5400 RPM 256MB Cache for C
## [19] "Intel Core i7-12700K Gaming Desktop Processor with Integrated Graphics and 12 (8P+4E) Cores up
## [20] "AMD Ryzen 9 5900X 12-core, 24-Thread Unlocked Desktop Processor"
## [21] "CORSAIR 4000D AIRFLOW Tempered Glass Mid-Tower ATX Case - High-Airflow - Cable Management Syst
## [22] "AMD Ryzen 9 9900X 12-Core, 24-Thread Unlocked Desktop Processor"
## [23] "Intel® CoreTM i9-14900K New Gaming Desktop Processor 24 (8 P-cores + 16 E-cores) with Integrat
## [24] "AMD Ryzen 9 7950X 16-Core, 32-Thread Unlocked Desktop Processor"
##
## [[4]]
##  [1] "832 Single Board Server Router X86 Single Board Computer Personal Cloud Network Attached Storag
##  [2] "Microsoft Windows Server 2022 Standard | Base License with media and key | 16 Core"
##  [3] "Dell PowerEdge T320 Tower Server with Intel Xeon E5-2470 v2 CPU, 128GB RAM, 4TB SSDs, 8TB HDDs
##  [4] "Dell PowerEdge R730XD Server | 2X E5-2650 V3 2.3GHz = 20 Cores | 128GB | H730 | 12x Trays (Ren
##  [5] "Dell PowerEdge R320, R420, R620, R330, R430, R630, R640 1U Ready Rail Kit - 81WCD"
##  [6] "Dell PowerEdge R530, R730, R730, R540, R740, R740XD, R820, R830, R7415, R7425 2U Ready Rail Ki
```

3

```
##  [7] "Hewlett Packard Enterprise ProLiant MicroServer Gen10 Plus v2 Tower Server w/one Intel Xeon E-2
##  [8] "Dell T7810 "Chia Farming" Workstation/Server, 2X Intel Xeon E5-2690 v4 up to 3.5GHz (28 Cores &
##  [9] "Dell PowerEdge R630 Server 2X E5-2660v3 2.60Ghz 20-Core 128GB 8X 1TB H730 Rails (Renewed)"
## [10] "X86 Single Board Server for Cyber Native, Hackable Personal Server with PCIe x4, Gigabit Ether
## [11] "Dell PowerEdge R730XD Server | 2X E5-2650v3 20 Cores | 384GB | H730 | 30TB Storage (Renewed)"
## [12] "RAISING ELECTRONICS 1U Rack Mount Sliding Keyboard Tray Cantilever for Server Data Network Rac
## [13] "Dell PowerEdge R630 Server with Rail Kit, 2 x E5-2660 v3, 256GB, 15.36TB SSD, Windows Server 2
## [14] "Dell PowerEdge R730XD Server | 2X E5-2680 V3 2.50GHz = 24 Cores | 128GB | H730 | 5X 1TB SAS (R
## [15] "HP DL380 G9 Server / 2X E5-2670 V3 2.3GHz = 24 Cores / 128GB RAM / P840 / 12x 3TB SAS (Renewed
## [16] "Dell PowerEdge R640 Server 2X Gold 6150 2.70Ghz 36-Core 256GB 800GB SSD + 10.8TB (Renewed)"
## [17] "PowerEdge Dell R740xd Server | 2X Silver 4210-2.2GHz = 20 Core | 192GB | 12x 6TB SAS (Renewed)
## [18] "Hewlett Packard Enterprise ProLiant MicroServer Gen10 Plus v2 Tower Server w/one Intel Xeon E23
## [19] "DermLite DL200 HR Polarized Dermascope"
## [20] "Dell Precision 7910 / T7910 Tower - 2X Intel Xeon E5-2670 V3 12-Core 2.3Ghz - 64GB DDR4 REG - 
## [21] "Dell PowerEdge R730 Server 2X E5-2680v3 2.50Ghz 24-Core 384GB H730 (Renewed)"
## [22] "PowerEdge Dell R640 Server | 2X Gold 6126 2.6GHz = 24 Cores | 128GB RAM | 4X New 1.2TB SAS HDD
## [23] "Dell PowerEdge R730xd Server 2X E5-2690v4 2.60Ghz 28-Core 64GB H730P (Renewed)"
## [24] "PowerEdge Dell R740XD Server | 2X Gold 6136 3.0GHz = 24 Cores | 192GB RAM | 2X 1TB SSDs (Renewe
##
## [[5]]
##  [1] "KYY Portable Monitor 15.6inch 1080P FHD USB-C, HDMI Computer Display HDR IPS Gaming Monitor w/
##  [2] "Sceptre New 27-inch Gaming Monitor 100Hz 1ms DisplayPort HDMI x2 100% sRGB AMD FreeSync Build-
##  [3] "PHILIPS 22 inch Class Thin Full HD (1920 x 1080) Monitor, 100Hz Refresh Rate, VESA, HDMI x1, V
##  [4] "Dell S3222HN Curved Monitor - 31.5-inch FHD (1920x1080) 75Hz 4Ms 1800R Curved Display, HDMI Co
##  [5] "Sceptre Curved 24.5-inch Gaming Monitor up to 240Hz 1080p R1500 1ms DisplayPort x2 HDMI x2 Blu
##  [6] "SAMSUNG 27\" T35F Series FHD 1080p Computer Monitor, 75Hz, IPS Panel, HDMI, VGA (D-Sub), 3-Sid
##  [7] "ARZOPA Portable Monitor, 15.6'' 1080P FHD Laptop Monitor USB C HDMI Computer Display HDR Eye Ca
##  [8] "LG UltraGear QHD 34-Inch Curved Gaming Monitor 34GP63A-B, VA with HDR 10 Compatibility and AMD
##  [9] "LG 34WP60C-B 34-Inch 21:9 Curved UltraWide QHD (3440x1440) VA Display with sRGB 99% Color Gamu
## [10] "SAMSUNG 49\" Odyssey G93SC Series OLED Curved Gaming Monitor, 240Hz, 0.03ms, Dual QHD, Displayl
## [11] "Sceptre Curved 24-inch Gaming Monitor 1080p R1500 98% sRGB HDMI x2 VGA Build-in Speakers, VESA
## [12] "Acer KB272 EBI 27\" IPS Full HD (1920 x 1080) Zero-Frame Gaming Office Monitor | AMD FreeSync T
## [13] "LG UltraGear QHD 27-Inch Gaming Monitor 27GL83A-B - IPS 1ms (GtG), with HDR 10 Compatibility, 
## [14] "Dell SE2422HX Monitor - 24 inch FHD (1920 x 1080) 16:9 Ratio with Comfortview (TUV-Certified),
## [15] "LG 27\" UltraGear QHD (2560x1440) Gaming Monitor, 240Hz, 1ms, VESA DisplayHDR 400, G-SYNC and A
## [16] "LG UltraFine UHD 27-Inch 4K UHD 2160p Computer Monitor 27UN850-W, IPS with VESA DisplayHDR 400
## [17] "Sceptre 30-inch Curved Gaming Monitor 21:9 2560x1080 Ultra Wide/ Slim HDMI DisplayPort up to 20
## [18] "AOC C27G2Z 27\" Curved Frameless Ultra-Fast Gaming Monitor, FHD 1080p, 0.5ms 240Hz, FreeSync, 
## [19] "Laptop Screen Extender, 14\" FHD 1080P IPS Laptop Monitor Extender Dual Screen, Portable Monit
## [20] "Acer Nitro 27\" WQHD 2560 x 1440 PC Gaming IPS Monitor | AMD FreeSync Premium Up to 180Hz Refr
## [21] "ASUS ROG Strix 27" QHD (2560x1440) HDR400 USB-C Gaming Monitor (XG27ACS), 180Hz,1ms, Fast IPS,
## [22] "LG 27US500-W Ultrafine Monitor 27-Inch 4K UHD (3840x2160) HDR10 IPS Borderless Design Reader M
## [23] "LG 27-Inch Class StanbyMe 1080p-Portable Touch-Screen-Monitor 27ART10AKPL, Built-in Battery, F
## [24] "Acer Nitro KG241Y Sbiip 23.8" Full HD (1920 x 1080) VA Gaming Monitor | AMD FreeSync Premium T
```

```r
printer <- data.frame(ProductName[[1]],
                      price = price[[1]],
                      Ratings = Ratings[[1]],
                      stringsAsFactors = FALSE
                      )
head(printer, 30)
```

```
##
## 1                                              HP ENVY Inspire 7958e Wireless All-in-One Col
## 2
```

```
## 3                                                                   HP Smart Tank 5101 Wireless All-in-One Ink Ta
## 4
## 5           Brother MFC-L2820DW Wireless Compact Monochrome All-in-One Laser Printer with Copy, Scan an
## 6                    Nelko Label Maker Machine with Tape, PM220 Bluethooth Label Printer, 2 Inch Portal
## 7  Memoking Print Pods Mini Printer - Sticker Printer Mini Thermal Printer TO2 Sticker Maker Machine
## 8        Mvgges Bluetooth Thermal Shipping Label Printer, 4X6 Label Printer for Shipping Packages Small
## 9           POLONO PM220S Label Maker Machine with Tape, 2 Inch Bluethooth Portable Thermal Label Pri
## 10            Thermal Shipping Label Printer Bluetooth, 4x6 Label Printer for Shipping Packages, Sup
## 11           Brother Monochrome Laser Printer, Multifunction All-in-One Printer, MFC-L5915DW, Wirel
## 12            DYMO Label Printer | Label Writer 450 Twin Turbo Direct Thermal Label Printer, Fast
## 13                  Label Maker Machine with Tape - Thermal Label Printer Bluetooth Label Make
## 14 MUNBYN Bluetooth Thermal Label Printer, 130B Wireless 4x6 Shipping Label Printer for Shipping Pac
## 15 HPRT Photo Printer 4x6,+20 Sheets&1ribbon,Wi-Fi Wireless Instant Picture Printer for iPhone, Andr
## 16
## 17                Bluetooth Thermal Shipping Label Printer, 4x6 Label Printer for Small Business for
## 18
## 19   HP OfficeJet 9012e All-in-One Color Inkjet Wireless Printer Scanner Copier Fax with 6-month Inst
## 20                  NIIMBOT Label Maker Machine D110 Label Printer Tape Included Portable Wireless C
## 21                  P21 Label Maker Machine with Tape, Bluetooth Label Printer Thermal Mini Label Ma
## 22
## 23 Phomemo Portable Thermal Printer - [Upgrade] Portable Printer Wireless for Travel Compatible with
## 24                    Pocket Printer for iPhone/Android, Wireless Mini Sticker Printer with 10
##     price        Ratings
## 1    99. 3.9 out of 5 stars
## 2    54. 4.0 out of 5 stars
## 3   169. 4.0 out of 5 stars
## 4   399. 4.2 out of 5 stars
## 5   249. 4.2 out of 5 stars
## 6    29. 4.0 out of 5 stars
## 7    29. 4.2 out of 5 stars
## 8    55. 4.2 out of 5 stars
## 9    37. 3.9 out of 5 stars
## 10   55. 4.0 out of 5 stars
## 11  529. 4.0 out of 5 stars
## 12  222. 4.2 out of 5 stars
## 13   23. 4.2 out of 5 stars
## 14   79. 4.0 out of 5 stars
## 15   99. 4.2 out of 5 stars
## 16   49. 4.2 out of 5 stars
## 17   55. 3.9 out of 5 stars
## 18  219. 4.0 out of 5 stars
## 19  109. 4.0 out of 5 stars
## 20   15. 4.2 out of 5 stars
## 21   19. 4.2 out of 5 stars
## 22  147. 4.0 out of 5 stars
## 23  108. 4.2 out of 5 stars
## 24   21. 4.2 out of 5 stars
```

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

laptopAccessories <- data.frame(ProductName[[2]],
                    Price = price[[2]],
                    Ratings = Ratings[[2]],
```

ProductName..1..	price	Ratings
HP ENVY Inspire 7958e Wireless All-in-One Color Inkjet Printer, Print, scan, copy, Duplex printing best-for-home, 3 months of ink included (327A7A)	99.	3.9 out of 5 stars
Canon PIXMA TS6420a All-in-One Wireless Inkjet Printer [Print,Copy,Scan], Black, Works with Alexa	54.	4.0 out of 5 stars
HP Smart Tank 5101 Wireless All-in-One Ink Tank Printer with 2 years of ink included,Print, scan, copy, Best-for-home, Refillable ink tank (1F3Y0A)	169.	4.0 out of 5 stars
Canon PIXMA PRO-200 Wireless Professional Inkjet Photo Printer	399.	4.2 out of 5 stars
Brother MFC-L2820DW Wireless Compact Monochrome All-in-One Laser Printer with Copy, Scan and Fax, Duplex, Black & White	Includes Refresh Subscription Trial(1), Amazon Dash Replenishment Ready	249.	4.2 out of 5 stars
Nelko Label Maker Machine with Tape, PM220 Bluethooth Label Printer, 2 Inch Portable Thermal Printer for Small Business, Address, Logo, Clothing, Sticker Printer for Phones & PC, White	29.	4.0 out of 5 stars
Memoking Print Pods Mini Printer - Sticker Printer Mini Thermal Printer T02 Sticker Maker Machine Mini Portable Printer Pocket Printer Inkless Printer for Anatomy Flashcard, Journal, Note, Kids, Green	29.	4.2 out of 5 stars
Mvgges Bluetooth Thermal Shipping Label Printer, 4X6 Label Printer for Shipping Packages Small Business, Support Windows, Mac, iOS, iPhone, Android, Used for Amazon, Ebay, Shopify, Etsy, UPS, USPS	55.	4.2 out of 5 stars
POLONO PM220S Label Maker Machine with Tape, 2 Inch Bluethooth Portable Thermal Label Printer for Small Business, Office, Home, Address, Logo Label, Sticker Printer for Phone/Tablet/PC, White	37.	3.9 out of 5 stars
Thermal Shipping Label Printer Bluetooth, 4x6 Label Printer for Shipping Packages, Support iOS, iPhone, iPad, Android, Mac and Windows, Widely Used for Amazon, Ebay, Shopify, Etsy, USPS,UPS	55.	4.0 out of 5 stars
Brother Monochrome Laser Printer, Multifunction All-in-One Printer, MFC-L5915DW, Wireless Networking, Mobile Printing & Scanning, Duplex Print, Copy & Scan, Amazon Dash Replenishment Ready	529.	4.0 out of 5 stars
DYMO Label Printer	Label Writer 450 Twin Turbo Direct Thermal Label Printer, Fast Printing, Great for Labeling, Filing, Shipping, Mailing, Barcodes and More, Home & Office Organization	222.	4.2 out of 5 stars
Label Maker Machine with Tape - Thermal Label Printer Bluetooth Label Maker Machine, Mini Printer Sticker Maker for Home, Kitchen, School, Office Organization with 2 Rolls Paper	23.	4.0 out of 5 stars
MUNBYN Bluetooth Thermal Label Printer, 130B Wireless 4x6 Shipping Label Printer for Shipping Packages Small Business Office or Home, Compatible with iPhone Android iPad Windows macOS Chrome Etsy eBay	79.	4.0 out of 5 stars
HPRT Photo Printer 4x6,+20 Sheets&1ribbon,Wi-Fi Wireless Instant Picture Printer for iPhone, Android, Smartphone, Thermal Dye-Sublimation Printer,AR Video Printing,Portable Photo Printers for Home Use	99.	4.2 out of 5 stars
Canon PIXMA TS3720 Wireless All-in-One Printer (6671C022)	49.	4.2 out of 5 stars
Bluetooth Thermal Shipping Label Printer, 4x6 Label Printer for Shipping Packages, Support Windows, Mac, iOS, Android, Used for Amazon, Ebay, Shopify, Etsy, UPS, USPS	55.	3.9 out of 5 stars
Brother FAX-2840 High Speed Mono Laser Fax Machine, Dark/Light Gray - FAX2840	219.	4.0 out of 5 stars
HP OfficeJet 9012e All-in-One Color Inkjet Wireless Printer Scanner Copier Fax with 6-month Instant Ink Included Mobile Computer Printers for Home Use Office Two-Sided Wifi Printing 1G5L4A (Renewed)	109.	4.0 out of 5 stars
NIIMBOT Label Maker Machine D110 Label Printer Tape Included Portable Wireless Connection Multiple Templates Available for Phone Easy to Use Office Home Organization Rechargeable Blue	15.	4.2 out of 5 stars
P21 Label Maker Machine with Tape, Bluetooth Label Printer Thermal Mini Label Makers with Built-in Cutter and Multiple Templates, Portable Printers for School, Office, Home Use (Pink)	19.	4.2 out of 5 stars
Brother Printer Wireless, Fast Electronic Label (QL810W), Black	147.	4.0 out of 5 stars
Phomemo Portable Thermal Printer - [Upgrade] Portable Printer Wireless for Travel Compatible with iOS and Android & Laptop,Bluetooth Printer supports 8.5" X 11" Letter Thermal Paper, Printer with Case	108.	4.2 out of 5 stars
Pocket Printer for iPhone/Android, Wireless Mini Sticker Printer with 10 Rolls Thermal Paper, Blue-Tooth Thermal Mini Printer Portable for Notes Journal Memo Photo Study, Blue	21.	4.2 out of 5 stars

```r
                    stringsAsFactors = FALSE
                    )
head(laptopAccessories, 30)
```

```
## 
## 1                          Mac Book Pro Charger - 118W USB C Charger Fast Charger Compatible
## 2          Anker 553 USB-C Hub, 8-in-1 USB C Dock, Dual 4K HDMI USB C to USB
## 3   Taygeer Travel Backpack for Women, Carry On Backpack with USB Charging Port & Shoe Pouch, TSA 15
## 4                          BESIGN LS03 Aluminum Laptop Stand, Ergonomic Detachable Computer Stand,
## 5   MATEIN Travel Laptop Backpack, Business Anti Theft Slim Sturdy Laptops Backpack with USB Charging
## 6          Charger for MacBook Air MacBook Pro 13 14 15 16 inch 2024 2023 2022 2021 2020, M1 M2 M3
## 7                          SHRRADOO Extra Large 50L Travel Laptop Backpack with USB Ch
## 8   65W Surface Pro Laptop Charger for Microsoft Surface Pro 10, 9, 8, 7+, 7, 6, 5, 4, 3, X, Windows
## 9                          85W Mac Book Pro Charger, Replacement AC 85w 2T-Tip Connector Power Ada
## 10 
## 11     HP USB-C Dock G5-8 in 1 Adapter for Both USB-C and Thunderbolt-Enabled Laptops, PCs, & Noteboo
## 12 
## 13 
## 14                          13 in 1 USB C Docking Station - Dua
## 15                          CalDigit TS4 Thunderbolt 4 Dock - 18
## 16 
## 17                     Adjustable Laptop Stand for Desk, Metal Foldable Laptop Riser, Porta
## 18     Lamicall Adjustable Laptop Stand, Portable Laptop Riser, Aluminum Laptop Stand for Desk Folda
## 19                          Anker 100W USB C Charger Block (GaN II), 3 Port
## 20   MOSISO Compatible with MacBook Air 13 inch Case 2024 2023 2022 M3 A3113 M2 A2681 Touch ID, Plasti
## 21             tomtoc Travel Backpack 40L, TSA Friendly Flight Approved Carry-on Luggage Hand Wate
## 22                          65W USB
## 23 
## 24         Laptop Backpack,Business Travel Anti Theft Slim Durable Laptops Backpack with USB Charging
##    Price           Ratings
## 1    26. 4.1 out of 5 stars
## 2    39. 4.2 out of 5 stars
## 3    17. 4.2 out of 5 stars
## 4    14. 4.1 out of 5 stars
## 5    21. 4.2 out of 5 stars
## 6    26. 4.2 out of 5 stars
## 7    25. 4.1 out of 5 stars
## 8    22. 4.2 out of 5 stars
## 9    19. 4.2 out of 5 stars
## 10  122. 4.1 out of 5 stars
```

ProductName..2..	Price	Ratings
Mac Book Pro Charger - 118W USB C Charger Fast Charger Compatible with USB C Port MacBook pro/Air, ipad Pro, Samsung Galaxy and All USB C Device, Include Charge Cable	26.	4.1 out of 5 stars
Anker 553 USB-C Hub, 8-in-1 USB C Dock, Dual 4K HDMI USB C to USB Adapter, 1 Gbps Ethernet USB Hub, 100W Power Delivery, SD Card Reader for MacBook Pro, XPS and More	39.	4.2 out of 5 stars
Taygeer 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	17.	4.2 out of 5 stars
BESIGN LS03 Aluminum Laptop Stand, Ergonomic Detachable Computer Stand, Riser Holder Notebook Stand Compatible with Air, Pro, Dell, HP, Lenovo More 10-15.6" Laptops, Silver	14.	4.1 out of 5 stars
MATEIN Travel Laptop Backpack, Business Anti Theft Slim Sturdy Laptops Backpack with USB Charging Port, Water Resistant College School Computer Bag Gift for Men & Women Fits 15.6 Inch Notebook, Grey	21.	4.2 out of 5 stars
Charger for MacBook Air MacBook Pro 13 14 15 16 inch 2024 2023 2022 2021 2020, M1 M2 M3 M4 Laptop 70W USB C Power Adapter, iPad, LED, 6.6FT USB-C Cable, Charging as Fast as Original Quality	26.	4.2 out of 5 stars
SHRRADOO Extra Large 50L Travel Laptop Backpack with USB Charging Port, College Backpack Airline Approved Business Work Bag Fits 17 Inch Computer for Men Women	25.	4.1 out of 5 stars
65W Surface Pro Laptop Charger for Microsoft Surface Pro 10, 9, 8, 7+, 7, 6, 5, 4, 3, X, Windows Surface Laptop 6, 5, 4, 3, 2, 1, Surface Go Tablet, Surface Book 3, 2, 1, Support 44W, 36W, LED, 10FT	22.	4.2 out of 5 stars
85W Mac Book Pro Charger, Replacement AC 85w 2T-Tip Connector Power Adapter,Laptop Charger Compatible with MacBook pro & Mac Book Pro 13 inch-15 inch Retina After Mid 2012	19.	4.2 out of 5 stars
Dell WD19S 180W Docking Station (130W Power Delivery) USB-C, HDMI, Dual DisplayPort, Black	122.	4.1 out of 5 stars
HP USB-C Dock G5-8 in 1 Adapter for Both USB-C and Thunderbolt-Enabled Laptops, PCs, & Notebooks - Single Cable for Charging, Networking, or Data Transfers - Great for Secure & Remote Management	114.	4.2 out of 5 stars
Dell 65W USB-C Laptop Charger for XPS and Latitude 5000 - Power Cord Included	22.	4.2 out of 5 stars
Charger for HP Laptop Computer 65W 45W Smart Blue Tip Power Adapter	9.	4.1 out of 5 stars
13 in 1 USB C Docking Station - Dual Monitor, Triple Display, 8 USB C/A Ports, Ethernet, Audio - For MacBook, Dell, HP, Lenovo, Surface	44.	4.2 out of 5 stars
CalDigit TS4 Thunderbolt 4 Dock - 18 Ports, 98W Charging, 40Gb/s Thunderbolt 4, USB-A/C, 2.5GbE, 8K/6K Displays, Mac/PC/Chrome Compatible	379.	4.2 out of 5 stars
havit HV-F2056 15.6"-17" Laptop Cooler Cooling Pad - Slim Portable USB Powered (3 Fans), Black/Blue	22.	4.1 out of 5 stars
Adjustable Laptop Stand for Desk, Metal Foldable Laptop Riser, Portable Laptop Holder Mount, Ventilated Cooling Computer Notebook Stand Compatible with 10-15.6" Laptops	13.	4.2 out of 5 stars
Lamicall Adjustable Laptop Stand, Portable Laptop Riser, Aluminum Laptop Stand for Desk Foldable, Ergonomic Computer Notebook Stand Holder for MacBook Air Pro, Dell XPS, HP (10-17.3") - Silver	29.	4.2 out of 5 stars
Anker 100W USB C Charger Block (GaN II), 3 Port Fast Compact Wall Charger for MacBook, Dell XPS, iPad Pro, Galaxy S24, iPhone 16/15 and More Series	34.	4.1 out of 5 stars
MOSISO Compatible with MacBook Air 13 inch Case 2024 2023 2022 M3 A3113 M2 A2681 Touch ID, Plastic Hard Shell&Keyboard Cover&Screen Film&Type C Adapter for MacBook Air 13.6 inch Case, Crystal Clear	11.	4.2 out of 5 stars
tomtoc Travel Backpack 40L, TSA Friendly Flight Approved Carry-on Luggage Hand Water-resistant Lightweight Business Rucksack, Durable Large Weekender Bag Daypack Fits 17.3 Inch Laptop	64.	4.2 out of 5 stars
65W USB C Laptop Charger Replacement for Lenovo Thinkpad/Yoga/Chromebook, ADLX65YDC2A Lenovo Laptop Charger	16.	4.1 out of 5 stars
Charger for Dell Laptop Computer 65W 45W Round Tip Power Adapter	9.	4.2 out of 5 stars
Laptop Backpack,Business Travel Anti Theft Slim Durable Laptops Backpack with USB Charging Port,Water Resistant College Computer Bag for Women & Men Fits 15.6 Inch Laptop and Notebook - Black	25.	4.2 out of 5 stars

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## 11  114. 4.2 out of 5 stars
## 12   22. 4.2 out of 5 stars
## 13    9. 4.1 out of 5 stars
## 14   44. 4.2 out of 5 stars
## 15  379. 4.2 out of 5 stars
## 16   22. 4.1 out of 5 stars
## 17   13. 4.2 out of 5 stars
## 18   29. 4.2 out of 5 stars
## 19   34. 4.1 out of 5 stars
## 20   11. 4.2 out of 5 stars
## 21   64. 4.2 out of 5 stars
## 22   16. 4.1 out of 5 stars
## 23    9. 4.2 out of 5 stars
## 24   25. 4.2 out of 5 stars
```

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

comp <- data.frame(ProductName[[3]], price = price[[3]], Ratings = Ratings[[3]], stringsAsFactors = FALSE) head(comp, 20) comp %>% kable("latex", booktabs = TRUE) %>% kable_styling(latex_options = "scale_down")

Servers <- data.frame(ProductName[[4]], Price = price[[4]], Ratings = ratings[[4]], stringsAsFactors = FALSE) head(Servers, 30) Servers %>% kable("latex", booktabs = TRUE) %>% kable_styling(latex_options = "scale_down")

Monitors <- data.frame(ProductName[[1]], Price = price[[1]], Ratings = ratings[[1]], stringsAsFactors = FALSE) head(Monitors, 50) Monitors %>% kable("latex", booktabs = TRUE) %>% kable_styling(latex_options = "scale_down")