

Task 1. Python Script for Web Scraping and Automation

Aim

The aim of this Python script is to automate web scraping of specific data from a website and perform data processing, cleaning, analysis and performing automation to update. Here we are choosing Amazon website and analyzing data for the product of wireless keyboard and mouse.

Defining Libraries

```
In [5]: import requests
from bs4 import BeautifulSoup
import pandas as pd
import re
import schedule
import time
```

Defining Scrape_amazon method to scrap

```
In [6]: # Define a function to scrape data from Amazon
def amazon_scrape():

    print("Scraping Started...")
    HEADERS = {
        "User-Agent": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/119.0.0.0 Safari/537.36",
        "Accept-Language": "en-US,en;q=0.5"
    }

    # Define the base URL for the Amazon search
    base_url = "https://www.amazon.in/s?k=wireless+keyboard+and+mouse&crd=2PHFKUECNV2P&srefix=wireless+key%2Caps%2C2170&ref=nb_sb_ss_ts-d"

    # Initialize lists to store product information
    title = []
    price = []
    rating = []
    available = []

    # Loop through pages to fetch data
    for page in range(1, 6):
        URL = f"{base_url}&page={page}"
        webpage = requests.get(URL, headers=HEADERS)

        if webpage.status_code == 200:
            soup = BeautifulSoup(webpage.content, "html.parser")
        else:
            print(f"Failed to retrieve page {page}")
            continue

        # Find product links on the page
        links = soup.find_all("a", attrs={'class': 'a-link-normal s-underline-text s-underline-link-text s-link-style a-text-normal'})

        for link in links:
            product_link = "https://www.amazon.in" + link['href']

            try:
                new_webpage = requests.get(product_link, headers=HEADERS)
                new_webpage.raise_for_status()
                new_soup = BeautifulSoup(new_webpage.content, "html.parser")

                # Extract product title
                product_title = new_soup.find("span", attrs={"id": 'productTitle'})
                if product_title:
                    title.append(product_title.text.strip())
                    print(product_title.text.strip())
                else:
                    title.append("N/A")

                # Extract product price
                product_price = new_soup.find("span", attrs={"class": "a-price-whole"})
                if product_price:
                    price.append(product_price.text.strip())
                    print(product_price.text.strip())
                else:
                    price.append("N/A")

                # Extract product rating
                product_rating = new_soup.find("span", attrs={"data-hook": "total-review-count" })
                if product_rating:
                    rating_text = re.sub(r'\D', '', product_rating.text)
                    if rating_text:
                        rating.append(rating_text)
                    else:
                        rating.append(0)
                    print(rating_text)
                else:
                    rating.append(0)

                # Extract product availability
                product_available = new_soup.find("span", attrs={"class": "a-size-medium a-color-success"})
                if product_available:
                    available.append(product_available.text.strip())
                    print(product_available.text.strip())
                else:
                    available.append("N/A")
```

```
except requests.exceptions.RequestException as e:
    print("Failed to retrieve product page:", e)

# Create a DataFrame from the scraped data and save it to a CSV file
data = {'Title': title,
        'Price': price,
        'Rating': rating,
        'Availability': available,
        }

amazon_df = pd.DataFrame(data)
amazon_df.to_csv("Amazon_data.csv", index=False, header=True, sep=',')
```

Function call to scrape

```
In [7]: # Defining Function call to amazon_scrape() method
amazon_scrape()
```

Scraping Started...

HP USB Wireless Spill Resistance Keyboard and Mouse Set with 10m Working Range 2.4G Wireless Technology / 3 Years Warranty (4SC12PA), Black

1,098.

8862

In stock

Amazon Basics Wireless Rechargeable Dual Connectivity Keyboard and Mouse Set - Multidevice Wireless Keyboard Full Size and Mouse, for Window

ndroid, Smart TV, Tablet, PC, Laptop

1,999.

39

In stock

Zebronics Zeb-Companion 107 USB Wireless Keyboard and Mouse Set with Nano Receiver (Black)

549.

15067

In stock

Dell USB Wireless Keyboard and Mouse Set- KM3322W, Anti-Fade & Spill-Resistant Keys, up to 36 Month Battery Life, 3Y Advance Exchange Warran

1,248.

7540

In stock

HP USB Wireless Spill Resistance Keyboard and Mouse Set with 10m Working Range 2.4G Wireless Technology / 3 Years Warranty (4SC12PA), Black

1,098.

8862

In stock

Failed to retrieve product page: HTTPConnectionPool(host='www.amazon.inhttps', port=443): Max retries exceeded with url: //aax-eu.amazon.in/FvEnEBU7RjMfKPpjQHQAAGLqqzTUQMAAAH2AQBvbm9fdHhuX2JpZDZigICBvbm9fdHhuX2ltcDEgICAItnXN0/https://www.amazon.in/cimetechnology-Wireless-Keyboard-Comput

ok/dp/B0BXWZWSVK/ref=sxin_17_sbv_search_btf?content-id=amzn1.sym.10447c6b-3f84-4df3-b999-01a8bbbf010e%3Aamzn1.sym.10447c6b-3f84-4df3-b999-01

e&crd=2PHFKUECNYV2P&cv_ct_cx=wireless+keyboard+and+mouse&keywords=wireless+keyboard+and+mouse&pd_rd_i=B0BXWZWSVK&pd_rd_r=3a5eeeed-d8e4-45c1

df765e78d&pd_rd_w=Ta4Y9&pd_rd_wg=pE1dS&pf_rd_p=10447c6b-3f84-4df3-b999-01a8bbbf010e&pf_rd_r=N0NDERHZ56EF7HE5B910&qid=1699375534&sbo=RZvfv%2F

B05021pAnSA%3D%3D&sprefix=wireless+key%2Caps%2C2170&sr=1-1-b614a050-8d70-4320-9c19-cc457ab2a351 (Caused by NameResolutionError("<urllib3.con

TPSConnection object at 0x129bd6b50>: Failed to resolve 'www.amazon.inhttps' ([Errno 8] nodename nor servname provided, or not known))

Logitech MK215 Wireless Keyboard and Mouse Combo, 2.4 GHz Wireless, 3 Years Warranty, Compact Design, 2-Year Battery Life(Keyboard),5 Month

ife(Mouse) PC/Laptop- Black

1,199.

27769

In stock

Logitech MK240 Nano Wireless USB Keyboard and Mouse Set, 12 Function Keys 2.4GHz Wireless, 1000DPI, Spill-Resistant Design, PC/Mac, Black/Ch

Yellow

1,494.

8916

In stock

Portronics Key2-A Combo of Multimedia Wireless Keyboard & Mouse, Compact Light-Weight for PCs, Laptops and Smart TV, White

898.

7209

In stock

ZEBRONICS Zeb-Companion 500 2.4GHz Wireless Keyboard and Mouse Set, USB Nano Receiver, Chiclet Keys, Ultra Silent, Power On/Off Switch, Rupe

r PC/Mac/Laptop (White)

998.

2712

In stock

Logitech MK270r Wireless Keyboard and Mouse Combo for Windows, 2.4 GHz Wireless, Spill-resistant Design, 8 Multimedia & Shortcut Keys, 2-Yea

Life, PC/Laptop- Black

1,499.

20495

In stock

HP 230 Wireless White Keyboard and Mouse Combo 1600 DPI (3L1F0AA)

1,999.

89

In stock

Amazon Basics USB Wireless Keyboard and Mouse Set with Nano Receiver

759.

434

HP 230 Wireless White Keyboard and Mouse Combo 1600 DPI (3L1F0AA)

1,999.

89

In stock

Ant Value FKBR105 Multimedia Wireless Keyboard & Mouse Combo, Compact Light-Weight for PCs, Laptops & Smart TV (Blue)

579.

1112

In stock

HP KM200 Wireless Mouse and Keyboard Combo, Full-Size Ergonomic Design, 3 Button and Built-in Scroll Wheel, 2.4 GHz Wireless connectio, 3 Ye

nty (7J4G8AA)

999.

In stock

Amazon Basics Wireless Keyboard and Mouse Set | 1000 DPI Mouse | 12 Function Keys | Compatible with Mac and Windows | Silent Keys | Auto Sta

pill-Resistant (Black)

749.

2

In stock

Portronics Key2 Combo Wireless Keyboard and Mouse Set, with 2.4 GHz USB Receiver, Silent Keystrokes, 1200 DPI Optical Tracking, Compact Desi

media Keys for PC, Laptop & USB Supported Devices (Black)

928.

4260

In stock

Portronics Key2 Combo Wireless Keyboard and Mouse Set, with 2.4 GHz USB Receiver, Silent Keystrokes, 1200 DPI Optical Tracking, Compact Desi

media Keys for PC, Laptop & USB Supported Devices (Grey)

929.

852

In stock

Logitech MK235 Wireless Keyboard and Mouse Set for Windows, 2.4 GHz Wireless Unifying USB Receiver, 15 FN Keys, Long Battery Life, Compatibl

C, Laptop - Black

1,494.

3273

In stock

Logitech MK240 Nano USB Wireless Keyboard and Mouse Set, 12 Function Keys 2.4GHz Wireless, 1000DPI,Spill-Resistant Design, PC/Mac, White/Viv

1,494.

8916

In stock

cimetechnology Wireless Keyboard and Mouse, 2.4G USB Portable Ergonomic Keyboard Mouse Combo with Ultra-Thin Design, Compact Full Size Slim Keyboa

c, Windows, Laptop, Computer - Grey

2,089.

7261

In stock

cimetechnology Wireless Keyboard and Mouse, 2.4G USB Portable Ergonomic Keyboard Mouse Combo with Ultra-Thin Design, Compact Full Size Slim Keyboa

c, Windows, Laptop, Computer- Turquoise

2,236.

3816

4775

In stock

Amazon Basics Wired Gaming Keyboard and Mouse Combo | Multicolor RGB LED Backlight Effects, Multimedia Keys, Durable Aluminum Body

1,229.

2276

In stock

Failed to retrieve product page: HTTPConnectionPool(host='www.amazon.inhttps', port=443): Max retries exceeded with url: //aax-eu.amazon.in/diCXTsCYwc7FUBILBRgAAAGLqq5IswMAAAH2AQBvbm9fdHhuX2JpZDMgICBvbm9fdHhuX2ltcDEgICAsow0I/https://www.amazon.in/cimetechn-Wireless-Keyboards-Ultra-uter/dp/B0BV94KBPF/ref=sxbs_sbv_search_btf?content-id=amzn1.sym.b8850c25-1899-4ec1-b48d-2d7f1e0c24d3%3Aamzn1.sym.b8850c25-1899-4ec1-b48d-2d7&criid=2PHFKUECNVY2P&cv_ct_cx=wireless+keyboard+and+mouse&keywords=wireless+keyboard+and+mouse&pd_rd_i=B0BV94KBPF&pd_rd_r=061f04b9-ff5e-4434-e29af78e&pd_rd_w=hUngv&pd_rd_wg=XeDvg&pf_rd_p=b8850c25-1899-4ec1-b48d-2d7f1e0c24d3&pf_rd_r=GXNZ2E5BW9TD0JWRHRHJ&qid=1699375630&sbo=RZvfv%2F%05021pAnSA%3D%3D&s_prefix=wireless+key%2Caps%2C2170&sr=1-17-ad43fbe4-6f9c-4603-ab45-acb189caa93f (Caused by NameResolutionError("<urllib3.conTTPSConnection object at 0x1293867d0>: Failed to resolve 'www.amazon.inhttps' ([Errno 8] nodename nor servname provided, or not known)))

Amkette Primus Neo 2.4 Ghz Advanced Wireless Keyboard and Mouse Set | Intelligent Auto Sleep Function | Space Saving and Ergonomic | Mouse O tch | 3 DPI Settings | USB Nano Receiver (Black)

799.

197

In stock

Portronics Key7 Combo Wireless Keyboard & Mouse Set with 2.4 GHz USB Receiver, 10m Working Range, 12 Shortcut Keys, Adjustable DPI, 10 Milli fe & Click Life for PC, Laptop, Mac (Black)

799.

37

In stock

iClever Wireless Keyboard and Mouse GK08 - Rechargeable Wireless Keyboard Ergonomic Full Size Design with Number Pad, 2.4G Stable Connection board and Mouse for Windows, Mac OS, Silver Black

2,699.

1455

Lenovo 510 Wireless Keyboard and Mouse Set, 2.4 GHz Nano USB Receiver, Full Size, Island Key Design, Left or Right Hand, 1200 DPI Optical Mo N81775, Black

1,799.

8271

In stock

Zebronics-Companion 114 Wireless Keyboard and Mouse Combo Compact 2.4GHz Featuring Integrated Multimedia Keys, Smartphone/Tablet Holder, UV eycaps, and On/Off Switch (Red +Black)

798.

131

Logitech MK240 Nano USB Wireless Keyboard and Mouse Set, 12 Function Keys 2.4GHz Wireless, 1000DPI,Spill-Resistant Design, PC/Mac, White/Viv 1,494.

8916

In stock

Amkette Primus Neo 2.4 Ghz Advanced Wireless Keyboard and Mouse Set | Intelligent Auto Sleep Function | Space Saving and Ergonomic | Mouse O tch | 3 DPI Settings | USB Nano Receiver (Black)

799.

197

In stock

Rapoo 8000M Multi-Mode Keyboard and Mouse Set Bluetooth 3.0/4.0 Wireless 2.4 GHz 1300 DPI Combo- Black

1,544.

66

In stock

Amazon Basics Wireless Rechargeable Dual Connectivity Keyboard and Mouse Set - Multidevice Wireless Keyboard Full Size and Mouse, for Window ndroid, Smart TV, Tablet, PC, Laptop

1,999.

39

In stock

Ant Value FKBRI05 Wireless Keyboard and Mouse Set, Compact Light-Weight for PCs, Laptops & Smart TV (Pink, White)

579.

1112

In stock

Logitech MK235 Wireless Keyboard and Mouse Set for Windows, 2.4 GHz Wireless Unifying USB Receiver, 15 FN Keys, Long Battery Life, Compatibl C, Laptop - Black

1,494.

3273

In stock

Gamdias Ares P2-Lite (2 in 1 Combo) | Full-Size Mechanical Keyboard & Gaming Mouse | Ergonomic Design | with Lighting Effects | Aesthetic Ga p

1,549.

Lenovo 100 Wireless Keyboard & Mouse Combo, Ambidextrous 1000 DPI Mouse Optical Sensor, upto 3M clicks, Ultra slim water resistant keyboard, Wireless Nano USB, upto 1yr battery life GX30L66303

1,649.

8271

In stock

Logitech MK275 USB Wireless Keyboard and Mouse Set for Windows, 2.4 GHz Wireless, Compact Wireless Mouse, 8 Multimedia & Shortcut Keys, 2-Ye y Life, PC/Laptop - Black

2,095.

2864

cimetechn Bluetooth Keyboard Mouse Combo, Slim Portable Ergonomic Wireless Keyboard and Rechargeable Mouse Compatible with Laptop, iPad, Tabl martphone - Black

3,299.

2462

In stock

cimetechn Wireless Keyboard and Mouse, 2.4G USB Portable Ergonomic Keyboard Mouse Combo with Ultra-Thin Design, Compact Full Size Slim Keyboa c, Windows, Laptop, Computer - Gold

2,399.

7261

In stock

ZEBRONICS Zeb-Jaguar Wireless Mouse, 2.4GHz with USB Nano Receiver & ZEB-KM2100 Multimedia USB Keyboard Comes with 114 Keys Including 12 Ded ltimedia Keys & with Rupee Key

596.

2

In stock

Tizum 2.4 GHz Retro Wireless Keyboard & Optical Mouse Combo with 2-in-1 Nano Receiver, Power Saving Auto-Sleep, Typewriter Inspired Round Ke ign, 86 Keys, 1000-DPI for MAC Windows iOS Android

1,299.

171

In stock

Zebronics Companion 110 Wireless Keyboard and Mouse Set with Bluetooth multiconnect, 2.4GHz Receiver, 2 Months* Backup, 1600DPI, Smartphone/ lder, Built in Rechargeable Battery

1,398.

297

In stock

i GEAR KeyBee Retro Typewriter Inspired 2.4GHz Wireless Keyboard with Mouse Combo for Desktop/Laptop and Devices with USB Support, Single Na er, Round Keycaps, Cleaning Brush (Green)

1,799.

1548

In stock
Amkette Xcite Pro USB wired Keyboard & Mouse Combo for Laptop, PC and USB Support Devices with 10 dedicated Multimedia Keys and 3 LED Indicators
gh precision 1000 DPI mouse. (Black)
529.
5098
In stock
Logitech MK295 Silent Wireless Mouse & Keyboard Combo with SilentTouch Technology, Full Numpad, Advanced Optical Tracking, Lag-Free Wireless
s Noise - Black
2,295.
20495
In stock
Failed to retrieve product page: HTTPSConnectionPool(host='www.amazon.inhttps', port=443): Max retries exceeded with url: //aax-eu.amazon.in
EjoTw3BMzNQNW9B_6EYAAAGLqQ_OgAMAAAH2AQBVbm9fdHhuX2JpZDMgICBvbm9fdHhuX2ltcDEgICDKccNU/https://www.amazon.in/Kreo-Tenkeyless-Mechanical-Backli
hable/dp/B0C85587LH/ref=sxbs_sbv_search_btf?content-id=amzn1.sym.b8850c25-1899-4ec1-b48d-2d7f1e0c24d3%3Aamzn1.sym.b8850c25-1899-4ec1-b48d-2d
3&crid=2PHFKUECNV2P&cv_ct_cx=wireless+keyboard+and+mouse&keywords=wireless+keyboard+and+mouse&pd_rd_i=B0C85587LH&pd_rd_r=b5aee372-66f7-4e94
427970a1f&pd_rd_w=8c2s4&pd_rd_wg=v0VSY&pf_rd_p=b8850c25-1899-4ec1-b48d-2d7f1e0c24d3&pf_rd_r=VES70E5DKV4WFKZWEK07&qid=1699375730&sbo=RZvfv%2F
B05021pAnSA%3D&srefix=wireless+key%2Caps%2C2170&sr=1-33-ad43fbe4-6f9c-4603-ab45-acb189caa93f (Caused by NameResolutionError("<urllib3.co
HTTPSConnection object at 0x1284a3790>: Failed to resolve 'www.amazon.inhttps' ([Errno 8] nodename nor servname provided, or not known))")
cimetech Wireless Keyboard and Mouse, 2.4G USB Portable Ergonomic Keyboard Mouse Combo with Ultra-Thin Design, Compact Full Size Slim Keyboa
c, Windows, Laptop, Computer - Gold
2,399.
7261
In stock
Amazon Basics Wireless Keyboard and Mouse Set | 1000 DPI Mouse | 12 Function Keys | Compatible with Mac and Windows | Silent Keys | Auto Sta
pill-Resistant (Black)
749.
2
In stock
Zebronics Companion 110 Wireless Keyboard and Mouse Set with Bluetooth multiconnect, 2.4GHz Receiver, 2 Months* Backup, 1600DPI, Smartphone/
lder, Built in Rechargeable Battery
1,398.
297
In stock
ASUS Wireless Keyboard and Silent Optical Mouse Set CW100, Up to 1600dpi,RF 2.4GHz, (Black)
1,499.
69
In stock
i GEAR KeyBee Interchangeable/Customizeable Typewriter Inspired 2.4GHz Wireless Keyboard with Mouse for Desktop/Laptop, Single Nano Receiver
eycaps, Cleaning Brush (White and Blue)
2,499.
1548
In stock
ZEBRONICS Zeb-Shine Wireless Mouse(White) & ZEB-KM2100 Multimedia USB Keyboard Comes with 114 Keys Including 12 Dedicated Multimedia Keys &
e Key
496.
3
In stock
ZEBRONICS Newly launched Companion 301 2.4GHz Wireless Keyboard & Mouse Combo with UV Printed, Retro Style Keys, 104 + 12 Integrated Multime
1600 DPI, High Precision (Black + Grey)
1,799.
236
In stock
Zebronics-Companion 114 Wireless Keyboard and Mouse Combo Compact 2.4GHz Featuring Integrated Multimedia Keys, Smartphone/Tablet Holder, UV
eycaps, and On/Off Switch (Red +Black)
798.
131
cimetech Wireless Keyboard and Mouse, 2.4G USB Portable Ergonomic Keyboard Mouse Combo with Ultra-Thin Design, Compact Full Size Slim Keyboa
c, Windows, Laptop, Computer - Grey
2,089.
7261
In stock
Rapoo 9300m Multi-Device Bluetooth + 2.4Ghz Wireless Keyboard and Mouse Set Ultra Slim Design, Spill-Resistant, Anodized Aluminum Body for W
C/Chromebook, 3 Years Warranty - White
2,699.
136

i GEAR KeyBee Retro Typewriter Inspired 2.4GHz Wireless Keyboard with Mouse Combo for Desktop/Laptop and Devices with USB Support, Single Na
er, Round Keycaps, Cleaning Brush (Blue)
1,799.
1548
In stock
Portronics Key2 Combo Wireless Keyboard and Mouse Set, with 2.4 GHz USB Receiver, Silent Keystrokes, 1200 DPI Optical Tracking, Compact Desi
media Keys for PC, Laptop & USB Supported Devices (Black)
928.
4260
In stock
Logitech MK275 Wireless Keyboard and Mouse Combo (ngps multi store)
2,095.
205

Logitech MK295 Silent Wireless Mouse & Keyboard Combo with SilentTouch Technology, Full Numpad, Advanced Optical Tracking, Lag-Free Wireless
s Noise - Black
2,295.
20495
In stock
ZEBRONICS Zeb-Companion 500 2.4GHz Wireless Keyboard & Mouse Combo & Zeb-Dash Plus 2.4GHz High Precision Wireless Mouse with up to 1600 DPI,
ving Mode, Nano Receiver and Plug & Play Usage -USB
1,196.
2712
In stock
Logitech Pebble 2 Combo, Wireless Keyboard and Mouse, Quiet and Portable, Customisable, Logi Bolt, Bluetooth, Easy-Switch for Windows, macOS
Chrome - Tonal Graphite
4,495.
20
In stock
Logitech MK345 Wireless Keyboard and Mouse Set Full-Sized Keyboard with PaIm Rest and Comfortable Right-Handed Mouse, 2.4 GHz Wireless USB R
Compatible with PC, Laptop - Black
2,194.
7079
In stock
Dell Premier Wireless Keyboard and Mouse Set KM7321W, Connect 3 Devices 2xBluetooth, 1xWireless, Quiet Full-Sized Keyboard, Adjustable dpi M
grammable Shortcut Keys, Grey
5,457.
249
In stock

i GEAR KeyBee Retro Typewriter Inspired 2.4GHz Wireless Keyboard with Mouse Combo for Desktop/Laptop and Devices with USB Support, Single M
er, Round Keycaps, Cleaning Brush (Blue)
1,799.
1548
In stock
Zebronics DC Joker Edition Companion 500 Wireless Combo with Silent use, Chiclet Keys, 1600 DPI, Power Saver, ON/Off Switch, Integrated Mult
d Slim Design
1,198.
2712
In stock
Portronics Key7 Combo Wireless Keyboard & Mouse Set with 2.4 GHz USB Receiver, 10m Working Range, 12 Shortcut Keys, Adjustable DPI, 10 Milli
fe & Click Life for PC, Laptop, Mac (Black)
799.
37
In stock
Amkette Primus Neo 2.4 Ghz Advanced Wireless Keyboard and Mouse Set | Intelligent Auto Sleep Function | Space Saving and Ergonomic | Mouse O
tch | 3 DPI Settings | USB Nano Receiver (Black)
799.
197
In stock
Failed to retrieve product page: HTTPSConnectionPool(host='www.amazon.inhttps', port=443): Max retries exceeded with url: //aax-eu.amazon.in
Z4PTecc4BVLuAMA_HWYAAAGLqrEEMgMAAAH2AQBVbm9fdHhuX2JpZDMgICBvbm9fdHhuX2ltcDEgICB1dDrQ/https://www.amazon.in/cimetechn-Wireless-Keyboard-Ultra-
uter/dp/B0BV94KBPF/ref=sxbs_sbv_search_btf?content-id=amzn1.sym.b8850c25-1899-4ec1-b48d-2d7f1e0c24d3%3Aamzn1.sym.b8850c25-1899-4ec1-b48d-2d7
&crd=2PHFKUECNV2P&cv_ct_cx=wireless+keyboard+and+mouse&keywords=wireless+keyboard+and+mouse&pd_rd_i=B0BV94KBPF&pd_rd_r=7bc9cdfa-7fe1-4923-
73c8b8e4&pd_rd_w=r3dMx&pd_rd_wg=cy87w&pf_rd_p=b8850c25-1899-4ec1-b48d-2d7f1e0c24d3&pf_rd_r=Z87QYY4QG0ZYXJ4Q1DJX&qid=1699375809&sbo=RZvfV%2F%
05021pAnSA%3D%3D&prefix=wireless+key%2Caps%2C2170&sr=1-49-ad43fbe4-6f9c-4603-ab45-acb189caa93f (Caused by NameResolutionError("<urllib3.con
TTPSConnection object at 0x128f9a110>: Failed to resolve 'www.amazon.inhttps' ([Errno 8] nodename nor servname provided, or not known)))
Amazon Basics Wired Keyboard and Mouse Combo l 1200 DPI l for Windows, Mac OS Computer
429.
142
In stock
Portronics Key2 Combo Wireless Keyboard and Mouse Set, with 2.4 GHz USB Receiver, Silent Keystrokes, 1200 DPI Optical Tracking, Compact Desi
media Keys for PC, Laptop & USB Supported Devices (Grey)
929.
852
In stock
Rapoo 9300m Multi-Device Bluetooth + 2.4Ghz Wireless Keyboard and Mouse Set Ultra Slim Design, Spill-Resistant, Anodized Aluminum Body for W
C/Chromebook, 3 Years Warranty - White
1,544.
136

Logitech MK345 Wireless Keyboard and Mouse Set Full-Sized Keyboard with Palm Rest and Comfortable Right-Handed Mouse, 2.4 GHz Wireless USB R
Compatible with PC, Laptop - Black
2,194.
7079
In stock
HP USB Wireless Spill Resistance Keyboard and Mouse Combo & w100 480P 30 FPS Digital Webcam with Built-in Mic, Plug and Play Setup, Wide-Ang
or Video Calling on Skype, Zoom, Microsoft Teams
1,647.
8862
Zebronics Companion 111 Wireless Keyboard Mouse Set with 2.4GHz Nano Receiver, 103 Keys, 1600DPI, Integrated Multimedia, High Precision, Adv
ical Sensor & Power Saving Mode (Graphite Red)
998.
205
In stock
Zebronics DC Black ADAM Edition Companion 500 Wireless Combo with Silent use, Chiclet Keys, 1600 DPI, Power Saver, ON/Off Switch, Integrated
ia and Slim Design
1,198.
2712
In stock
Portronics Key2-A Combo of Multimedia Wireless Keyboard & Mouse, Compact Light-Weight for PCs, Laptops and Smart TV, White & MPORT 31C 4-in-
(Type C to 4 USB-A Ports) with Fast Data Transfer
1,226.
7209
In stock
J JOYACCESS Wireless Keyboards Combo Full-size Whisper-quiet Compact Keyboards and Mouse Combo wireless keyboards combo
6,096.
8149
iClever GK08 Wireless Keyboard and Mouse - Rechargeable, Ergonomic, Quiet, Full Size Design with Number Pad, 2.4G Stable Connection Slim Mac
and Mouse for Windows, Mac OS Computer, Silver
2,436.
1455
In stock
Portronics Key2 Combo Wireless Keyboard and Mouse Set, with 2.4 GHz USB Receiver, Silent Keystrokes, 1200 DPI Optical Tracking, Compact Desi
media Keys for PC, Laptop & USB Supported Devices (Black)
928.
4260
In stock
iClever Wireless Keyboard and Mouse Set DK03, Rechargeable Dual-Mode (Bluetooth+2.4G) Bluetooth Keyboard and Mouse Set, Ultra-Slim Multi-Dev
ard for Mac, iPad, Apple, Android, Windows,Grey
3,399.
308
In stock
Logitech Pebble 2 Combo, Wireless Keyboard and Mouse, Quiet and Portable, Customisable, Logi Bolt, Bluetooth, Easy-Switch for Windows, macOS
Chrome - Tonal White
4,402.
20
In stock
cimetechn Wireless Keyboard and Mouse, 2.4G USB Portable Ergonomic Keyboard Mouse Combo with Ultra-Thin Design, Compact Full Size Slim Keyboa
c, Windows, Laptop, Computer - Pink
2,225.
3816
In stock
cimetechn Wireless Keyboard and Mouse, 2.4G USB Portable Ergonomic Keyboard Mouse Combo with Ultra-Thin Design, Compact Full Size Slim Keyboa
c, Windows, Laptop, Computer- Turquoise
2,236.
3816
In stock
HP Stylish Ultra-Slim Design Bluetooth Keyboard and Mouse Set with Enhanced Multimedia Experience & Spill Resistance Technology and Supports
8/10 Android 5.0+ MAC OS 9.0+ Apple iOS 13+ (Black)
1,499.
85
In stock
Dell KM5221W Pro Wireless Keyboard and Mouse Combo, Programmable Keys and Battery Indicator Light - Black
2,799.

```
1379
In stock
Logitech MK275 Wireless Keyboard and Mouse Combo (ngps multi store)
2,095.
205

RAEGR RapidGear X70 USB Gaming Keyboard and Mouse Set | Made of Aluminium Body | 4 Choices of Adjustable DPI | 3 Rainbow Lighting Modes|Gaming
for PC/Laptop/Mac - RG10359 (Grey)
1,484.
221
In stock
ZEBRONICS Zeb-Companion 500 2.4GHz Wireless Keyboard & Mouse Combo, USB Nano & Zeb Wonderbar 10 USB Powered 2.0 Computer Speaker with RGB Li
1,847.
2712
In stock
Portronics Key7 Combo Wireless Keyboard & Mouse Set with 2.4 GHz USB Receiver, 10m Working Range, 12 Shortcut Keys, Adjustable DPI, 10 Milli
fe & Click Life for PC, Laptop, Mac (Black)
799.
37
In stock
Amazon Basics Wireless Keyboard and Mouse Combo for Windows, 2.4 GHz Wireless, Spill-Resistant Design, 8 Multimedia & Shortcut Keys, PC, Com
top, Notebook (Black)
1,259.
434
In stock
Failed to retrieve product page: HTTPConnectionPool(host='www.amazon.inhttps', port=443): Max retries exceeded with url: //aax-eu.amazon.in
-9WeZPyby81UZgHAtbMAAAGLqrJwmGMAAAH2AQBvbm9fdHhuX2JpZDEgICBvbm9fdHhuX2ltcDEgICCGPhfq/https://www.amazon.in/cimetechn-Wireless-Keyboard-Ultra-
uter/dp/B0BV94KBPF/ref=sxbs_sbv_search_btf?content-id=amzn1.sym.b8850c25-1899-4ec1-b48d-2d7f1e0c24d3%3Aamzn1.sym.b8850c25-1899-4ec1-b48d-2d7
&crId=2PHFKUECNVY2P&cv_ct_cx=wireless+keyboard+and+mouse&keywords=wireless+keyboard+and+mouse&pd_rd_i=B0BV94KBPF&pd_rd_r=09922531-7551-4286-
3cfb9b45&pd_rd_w=BIheR&pd_rd_wg=xEA2X&pf_rd_p=b8850c25-1899-4ec1-b48d-2d7f1e0c24d3&pf_rd_r=ACAKXY7HQJFTE2JAK5VC&qid=1699375902&sbo=RZvfv%2F%
05021pAnSA%3D%3D&prefix=wireless+key%2Caps%2C2170&sr=1-65-ad43fbe4-6f9c-4603-ab45-acb189caa93f (Caused by NameResolutionError("<urllib3.con
TTPSConnection object at 0x128e845d0>: Failed to resolve 'www.amazon.inhttps' ([Errno 8] nodename nor servname provided, or not known)))
```

Data Cleaning and Analysis

```
In [8]: # Read the scraped data
amazon_df = pd.read_csv("Amazon_data.csv")

# Data Cleaning
amazon_df["Title"] = amazon_df['Title'].str.strip()
amazon_df['Price'] = amazon_df['Price'].str.replace('₹', '').str.replace(',', '').astype(float)
amazon_df['Rating'] = amazon_df['Rating'].astype(int)
amazon_df['Availability'] = amazon_df['Availability'].str.strip()

# Handling Missing Data
amazon_df = amazon_df.replace("N/A", pd.NA).dropna(how="any").replace(pd.NA, "N/A")

# Data Analysis
average_price = amazon_df['Price'].mean()
highest_rated_product = amazon_df[amazon_df['Rating'] == amazon_df['Rating'].max()]
number_of_available_items = len(amazon_df[amazon_df['Availability'] == 'In stock'])

print(f"Average Price: ₹{average_price:.2f}")
print("Highest Rated Product:")
print(highest_rated_product)
print(f"Number of Available Items: {number_of_available_items}")

# Save cleaned data to another CSV file
amazon_df.to_csv("Amazon_data_clean.csv", index=False, header=True, sep=',')

print("Scraping completed")
```

```
Average Price: ₹1621.85
Highest Rated Product:
                                     Title    Price  Rating \
5  Logitech MK215 Wireless Keyboard and Mouse Com...  1199.0   27769

    Availability
5      In stock
Number of Available Items: 96
Scraping completed
```

Defining update_daily() method to automate the updation schedule

```
In [9]: # Defining Update method
def update_daily():
    print("Updating data...")
    amazon_scrape()
```

Scheduling the update

```
In [10]: # Schedule the update to occur every day at 12:00 PM (adjust the time as needed)
schedule.every().day.at("12:00").do(update_daily)

Out[10]: Every 1 day at 12:00:00 do update_daily() (last run: [never], next run: 2023-11-08 12:00:00)
```

Main Loop for Scheduling

```
In [11]: # Main loop for Scheduling
while True:
    schedule.run_pending()
    time.sleep(1)
```