Project Name:

Web Scraping Nike Women's Shoes Using Selenium and BeautifulSoup

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Problem Statement:

To extract product details (names, colors, and prices) of women's shoes from Nike's website dynamically, considering the website's heavy reliance on JavaScript rendering. Traditional scraping methods like requests fail to retrieve data as the content is dynamically loaded.

Description:

This project involves developing a web scraping script using **Selenium** and **BeautifulSoup** to gather product data from Nike's website. The script automates a browser to load the webpage, scrolls to the bottom to ensure all products are dynamically loaded, and then extracts product names, available colors, and prices.

The key steps include:

1. **WebDriver Initialization**: Using Selenium to initialize a Chrome browser instance and load the target webpage.

2. **Dynamic Scrolling**: Automating scrolling to handle infinite scrolling and load all product data.

3. **Data Extraction**: Utilizing BeautifulSoup to parse the dynamically loaded HTML content and extract relevant details.

4. **Data Storage**: Organizing the extracted data into a panda DataFrame and saving it as a CSV file for analysis and further processing.

The project highlights efficient handling of dynamic web content and demonstrates the combination of Selenium's automation with BeautifulSoup's parsing capabilities.

Conclusion:

The project successfully extracts women's shoe data from Nike's website, including product names, colors, and prices. The resulting dataset is saved in a structured format (CSV), enabling easy analysis or integration into other workflows.

Key takeaways include:

1. Combining Selenium and BeautifulSoup effectively handles dynamic content.

2. Automating scrolling ensures complete data retrieval for infinite scrolling pages.

3. The extracted dataset provides valuable insights into product offerings for business or personal purposes.