Purpose

The purpose of the code is to scrape data from the options chain webpage of the National Stock Exchange of India (NSE) and save it to a Pandas DataFrame. The code can extract the options chain data for a given strike price or expiry date.

Libraries

The code uses the following libraries:

- Selenium - a Python library that provides a convenient way to control a web browser and interact with web pages using Python.
- BeautifulSoup - a Python library that allows for easy parsing of HTML and XML files.
- Pandas - a Python library used for data manipulation and analysis.

Code Description

The code is divided into several parts:

Importing Libraries

The required libraries - Selenium, BeautifulSoup, and Pandas - are imported at the beginning of the script.

Setting URL and Index

The URL of the NSE options chain webpage and the index to be selected (NIFTY or BANKNIFTY) are defined as variables.

Initializing Webdriver

The `page_inits` function is defined to initialize the Chrome web driver instance and load the options chain URL with the desired index. The function returns the web driver instance.

Extracting Option Chain Data

The `get_option_chain_data` function is defined to extract the options chain data from the HTML source using BeautifulSoup and convert it to a Pandas DataFrame.

Selecting Options

The `get_options_by` function is defined to select the desired options by either strike price or expiry date and extract the corresponding options chain data.

Main Functionality

The main functionality of the code is implemented in the following steps:

1. The `page_inits` function is called to initialize the web driver instance and load the options chain URL for the NIFTY index.
2. The `get_options_by` function extracts the options chain data for the given strike price.
3. The download link is found and clicked to download the options chain data as a CSV file.
4. The web driver instance is quit.

Execution

The execution of the code can be initiated by running the script in a Python environment such as Jupyter Notebook or any Python IDE. The code should produce a CSV file containing the options chain data for the selected index, strike price, or expiry date.

Conclusion

The code is a Python script that uses Selenium and BeautifulSoup libraries to scrape data from the options chain webpage of the National Stock Exchange of India (NSE) and save it to a Pandas DataFrame. The code can extract the options chain data for a given strike price or expiry date. It can be used to automate the data extraction process from the NSE options chain webpage, which can be helpful in financial analysis and decision-making.