**Exercise 02: Web Scraping, Data Reconciliation, Email Sending, Scheduling (1 Day)**

This exercise combines web scraping, data reconciliation, and email sending to automate stock price monitoring.

**Scenario:**

You want to track the stock price of Apple Inc. and send email alerts if the price goes above or below a certain threshold.

**Requirements:**

* Python libraries:
  + *Requests*
  + *beautifulsoup4*
  + *pandas*
  + *smtplib*
* Configure an SMTP server to send emails (e.g., Gmail with less secure app access enabled).

**Steps:**

1. **Web Scraping:**
   * Define the target URL for the stock price information.
     1. <https://finance.yahoo.com/quote/AAPL?p=AAPL> (Use this URL)
   * Use *requests* to fetch the HTML content of the webpage.
   * Parse the HTML using *beautifulsoup4* to locate the element containing the stock price.
   * Extract the relevant text and convert it to a float using regular expressions or string manipulation.
2. **Data Reconciliation:**
   * Read “stock\_data.csv” file using pandas.
   * Extract only prices for Apple Inc. (Filter by AAPL under “Company” column in the dataset)
   * Compare the newly scraped price with the stored value (if available).
   * Calculate the price difference or percentage change.
3. **Email Alert:**
   * Set up an SMTP server connection using *smtplib* (or a similar library).
   * Define email sender and recipient addresses, subject line, and email body content.
   * Include the current stock price, price difference, and any relevant thresholds in the email body.
   * Send the email notification only if the price difference exceeds a predefined threshold (up or down).
4. **Scheduling:**
   * Schedule the script to run periodically (e.g., every hour) using cron jobs (Linux/macOS) or Task Scheduler (Windows) and provide a **screenshot** of the scheduler.

**Final Solution Submission Instructions:**

After finalizing the solution, upload it to the GitHub repository and share the link in your reply email.