

## **Part 1: Web Scraping with BeautifulSoup**

### **1. Basic Web Scraping**

- Write a Python script to scrape all the headings (<h1> to <h3>) from the homepage of a given website.
- Extract all hyperlinks (<a> tags) and store them in a CSV file.

### **2. Scraping Specific Data**

- Write a script to extract product names and prices from an e-commerce website. Save the extracted data in a structured format like JSON or CSV.
- Scrape the latest news headlines and their links from a news website and display them in a formatted table.

### **3. Scraping Data with Attributes**

- Scrape the alt text of images from a webpage.
- Extract and print meta description and keywords from a webpage.

## **Part 2: Data Cleaning**

### **4. Handling Missing Values**

- **Given a CSV file with missing values, write a Python program using pandas to:**
  - Identify missing values.
  - Fill missing values using mean, median, or mode.
  - Remove rows or columns with excessive missing data.

### **5. Data Transformation and Normalization**

- Given a dataset containing numerical values with varying scales, apply Min-Max normalization and Z-score normalization to standardize the data.

### **6. Removing Duplicates**

- Write a Python script to read a CSV file, identify duplicate rows, and remove them while keeping only the first occurrence.

### **7. Combining Data from Multiple Sources**

- Merge two datasets containing customer details and purchase history using pandas.merge().
- Remove inconsistencies and ensure data integrity.