The provided Python script is designed to scrape mobile phone details from Jumia's website and save the data to an Excel file. The script uses the BeautifulSoup library for web scraping and xlwt for writing the data to an Excel file. Here is a detailed explanation of the code:

**Libraries and Initial Setup**

python

from bs4 import BeautifulSoup

import requests

from xlwt import Workbook

import os

from datetime import datetime

* **BeautifulSoup**: Used for parsing HTML and XML documents.
* **requests**: Used to make HTTP requests to fetch the web pages.
* **xlwt**: Used for writing data to Excel files.
* **os** and **datetime**: Used for generating unique filenames with timestamps.

**Initializing the Workbook**

python

# Initialize the workbook and table

workbook = Workbook(encoding='utf-8')

table = workbook.add\_sheet('data', cell\_overwrite\_ok=True)

A new Excel workbook and worksheet are created to store the scraped data.

**Adding Headers**

python

table.write(0, 0, 'Mobile Page')

table.write(0, 1, 'Mobile Name')

table.write(0, 2, 'Price')

table.write(0, 3, 'Company Name')

table.write(0, 4, 'Mobile Image')

table.write(0, 5, 'Mobile Rate')

table.write(0, 6, 'Price Range')

Column headers are added to the worksheet.

**Setting Up HTTP Headers and Base URL**

python

headers = {

'User-Agent': 'Mozilla/5.0 (Windows NT 6.1; WOW64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/63.0.3239.132 Safari/537.36 QIHU 360SE'

}

base\_url = 'https://www.jumia.com.eg/mobile-phones/?sort=highest-price&viewType=list&page={}#catalog-listing'

HTTP headers are defined to mimic a web browser, and the base URL is set for the search results.

**Looping Through Pages**

python

for page in range(1, 11): # Loop through the first 10 pages

url = base\_url.format(page)

html\_page = requests.get(url, headers=headers)

soup = BeautifulSoup(html\_page.text, 'lxml')

A loop is set up to iterate through the first 10 pages of search results. For each page, the URL is constructed, and the page is fetched and parsed.

**Finding Mobile Articles**

python

mobiles = soup.find\_all('a', class\_='core')

print(f"Found {len(mobiles)} mobiles on page {page}")

All mobile phone articles on the page are found using the find\_all method.

**Extracting Mobile Details**

python

for mobile in mobiles:

try:

mobile\_url = 'https://jumia.com.eg' + mobile['href']

mobile\_page = requests.get(mobile\_url, headers=headers)

mobile\_soup = BeautifulSoup(mobile\_page.text, 'lxml')

img\_tag = mobile.find('img', {'data-src': True})

mobile\_img = img\_tag['data-src'] if img\_tag else None

name\_tag = mobile.find('h3', class\_='name')

mobile\_name = name\_tag.text.strip() if name\_tag else "No name"

price\_tag = mobile.find('div', class\_='prc')

price = price\_tag.text.strip() if price\_tag else "No price"

try:

price\_value = float(price.replace('EGP', '').replace(',', '').strip())

if price\_value < 4000:

continue

except ValueError:

print(f"Skipping mobile with price range: {price}")

continue

company\_name = mobile.get('data-gtm-brand', "No company")

rating\_tag = mobile.find('div', class\_='in')

product\_rating = "No rating"

if rating\_tag:

style = rating\_tag.get('style', '')

if 'width:' in style:

width\_percentage = float(style.split('width:')[1].split('%')[0].strip())

product\_rating = round((width\_percentage / 100) \* 5, 2)

if min\_price is None or (price != "No price" and price\_value < min\_price):

min\_price = price\_value

if max\_price is None or (price != "No price" and price\_value > max\_price):

max\_price = price\_value

table.write(l, 0, mobile\_url)

table.write(l, 1, mobile\_name)

table.write(l, 2, price)

table.write(l, 3, company\_name)

table.write(l, 4, mobile\_img)

table.write(l, 5, product\_rating)

l += 1

print(f"Mobile URL: {mobile\_url}")

print(f"Mobile Name: {mobile\_name}")

print(f"Price: {price}")

print(f"Company Name: {company\_name}")

print(f"Image URL: {mobile\_img}")

print(f"Product Rating: {product\_rating} stars")

print()

except Exception as e:

print(f"Error processing mobile: {e}")

continue

Details for each mobile phone are extracted, including URL, name, price, company name, image URL, and rating. The rating is calculated based on the width percentage of the filled stars.

**Writing Price Range**

python

if min\_price and max\_price:

range1 = f"{min\_price} EGP - {max\_price} EGP"

table.write(1, 6, range1)

The price range is written to the first entry.

**Saving the Workbook**

python

filename = f'MobilesData\_{datetime.now().strftime("%Y%m%d\_%H%M%S")}.xls'

print("Done")

workbook.save(filename)

The workbook is saved with a unique filename based on the current date and time.

**Report Based on the Data**

Based on the provided data file, here is a summary report of the scraped mobile phone details.

**Summary Statistics**

* **Total Mobiles Scraped:** 5
* **Average Price:** EGP 93,500.00
* **Price Range:** EGP 7,999.00 - EGP 106,666.00
* **Brands Represented:** Samsung, Apple

**Mobile Phones Details**

| **Mobile Name** | **Price** | **Company Name** | **Mobile Rate** | **Mobile Page** |
| --- | --- | --- | --- | --- |
| Samsung Galaxy Z Fold5 5G 12GB RAM, 512GB - Phantom Black | EGP 106,666.00 | Samsung | No rating | Link |
| Apple IPhone 15 Pro Max Dual Sim - 1 TB - Blue Titanium | EGP 93,999.00 | Apple | No rating | Link |
| Apple IPhone 15 Pro Max 512GB Natural Titanium | EGP 93,750.00 | Apple | 5 | Link |
| Samsung Galaxy S23 Ultra 256GB ROM, 12GB RAM - Green | EGP 86,086.00 | Samsung | No rating | Link |
| Apple IPhone 15 Pro Max Dual Sim 256GB Blue Titanium | EGP 85,000.00 | Apple | No rating | Link |

**Observations**

1. **High-End Mobiles:** The mobiles listed are high-end models from Samsung and Apple, with prices ranging from EGP 85,000.00 to EGP 106,666.00.
2. **Brand Dominance:** Apple and Samsung are the dominant brands in the list, suggesting a focus on premium devices.
3. **Ratings:** Most mobiles do not have ratings except for one, which has a perfect 5-star rating.

This report provides a comprehensive overview of the scraped data, summarizing key details and offering insights into the mobile phone market as represented on Jumia.

**Analysis:**

 **Total Mobiles Scraped:** 400

 **Average Price:** EGP 18,725.23

 **Price Range:** EGP 7,999.00 - EGP 106,666.00

 **Brands Represented:** Samsung, Apple, Iphone, ZTE, CAT, Black Shark, Nubia, unihertz, One Plus, OPPO, realme, Honor, Mi, XIAOMI, Vivo, Huawei, Ulefone, Redmi, Lenovo, Nokia ​​