Python Programming Lab

Practical 9

Topic Covered: Web Scrapping & Beautiful Soup

Name: Saloni Vishwakarma (C1-13)

Suppose you want to buy a phone and want to compare the features and prices of the Samsung phones available on Flipkart and Amazon.

Task A:

In order to do that, let's apply the understanding of web scraping on the Flipkart website to fetch prices and technical specifications data from the web page. This Flipkart link https://www.flipkart.com/search?q=samsung+mobiles&sid=tyy%2C4io&as=on&as- (https://www.flipkart.com/search?q=samsung+mobiles&sid=tyy%2C4io&as=on&as-) show=on& otracker=AS_QueryStore_OrganicAutoSuggest_1_5_na_na_na&otracker1=AS_Quer yStore_OrganicAutoSuggest_1_5_na_na_na&as-pos=1&as- type=RECENT& suggestionId=samsung+mobiles%7CMobiles&requestId=18944876-a6ef-44c0- ac67- d31d7b11a548&as-backfill=on contains information about some features of Samsung phones, including technical specifications, prices, discounts and rating, etc.

```python
In [1]: # Import useful libraries and classes.
        from urllib.request import urlopen as uReq
        from bs4 import BeautifulSoup as soup
```

```python
In [3]: #html upload
        my_url=  "https://www.flipkart.com/search?q=samsung+mobiles&amp;sid=tyy%2C4io&
        uClient= uReq(my_url)
        page_html= uClient.read()
        uClient.close()
```

```python
In [4]: my_url
```

```
Out[4]: 'https://www.flipkart.com/search?q=samsung+mobiles&amp;sid=tyy%2C4io&amp;as=o
        n&amp;as-show=on&amp;otracker=AS_QueryStore_OrganicAutoSuggest_1_5_na_na_na&a
        mp;otracker1=AS_QueryStore_OrganicAutoSuggest_1_5_na_na_na&amp;as-pos=1&amp;a
        s-type=RECENT&amp;suggestionId=samsung+mobiles%7CMobiles&amp;requestId=189448
        76-a6ef-44c0-ac67-d31d7b11a548&amp;as-backfill=on'
```

```python
In [5]: uClient
```

```
Out[5]: <http.client.HTTPResponse at 0x7fdae8291a60>
```

In [6]:
```python
page_html
```

Out[6]:
```
b'<!doctype html><html lang="en"><head><link href="https://rukminim1.flixcar
t.com" rel="preconnect"/><link rel="stylesheet" href="//static-assets-web.fli
xcart.com/fk-p-linchpin-web/fk-cp-zion/css/app_modules.chunk.905c37.css"/><li
nk rel="stylesheet" href="//static-assets-web.flixcart.com/fk-p-linchpin-web/
fk-cp-zion/css/app.chunk.e84a00.css"/><meta http-equiv="Content-type" content
="text/html; charset=utf-8"/><meta http-equiv="X-UA-Compatible" content="IE=E
dge"/><meta property="fb:page_id" content="102988293558"/><meta property="fb:
admins" content="658873552,624500995,100000233612389"/><meta name="robots" co
ntent="noodp"/><link rel="shortcut icon" href="https:///www/promos/new/201505
28-140547-favicon-retina.ico"/><link type="application/opensearchdescription+
xml" rel="search" href="/osdd.xml?v=2"/><meta property="og:type" content="web
site"/><meta name="og_site_name" property="og:site_name" content="Flipkart.co
m"/><link rel="apple-touch-icon" sizes="57x57" href="/apple-touch-icon-57x57.
png"/><link rel="apple-touch-icon" sizes="72x72" href="/apple-touch-icon-72x7
2.png"/><link rel="apple-touch-icon" sizes="114x114" href="/apple-touch-icon-
114x114.png"/><link rel="apple-touch-icon" sizes="144x144" href="/apple-touch
-icon-144x144.png"/><link rel="apple-touch-icon" href="/apple-touch-icon-57x5
7.png"/><meta name="twitter:card" content="app"><meta name="twitter:site" con
tent="@flipkart"><meta name="twitter:creator" content="@flipkart"><meta name
="twitter:title" content="Samsung Mobiles - Buy Products Online at Best Price
```

In [7]:
```python
page_soup= soup(page_html)
page_soup
```

Out[7]:
```
<!DOCTYPE html>
<html lang="en"><head><link href="https://rukminim1.flixcart.com" rel="precon
nect"/><link href="//static-assets-web.flixcart.com/fk-p-linchpin-web/fk-cp-z
ion/css/app_modules.chunk.905c37.css" rel="stylesheet"/><link href="//static-
assets-web.flixcart.com/fk-p-linchpin-web/fk-cp-zion/css/app.chunk.e84a00.cs
s" rel="stylesheet"/><meta content="text/html; charset=utf-8" http-equiv="Con
tent-type"/><meta content="IE=Edge" http-equiv="X-UA-Compatible"/><meta conte
nt="102988293558" property="fb:page_id"/><meta content="658873552,624500995,1
00000233612389" property="fb:admins"/><meta content="noodp" name="robots"/><l
ink href="https:///www/promos/new/20150528-140547-favicon-retina.ico" rel="sh
ortcut icon"/><link href="/osdd.xml?v=2" rel="search" type="application/opens
earchdescription+xml"/><meta content="website" property="og:type"/><meta cont
ent="Flipkart.com" name="og_site_name" property="og:site_name"/><link href="/
apple-touch-icon-57x57.png" rel="apple-touch-icon" sizes="57x57"/><link href
="/apple-touch-icon-72x72.png" rel="apple-touch-icon" sizes="72x72"/><link hr
ef="/apple-touch-icon-114x114.png" rel="apple-touch-icon" sizes="114x114"/><l
ink href="/apple-touch-icon-144x144.png" rel="apple-touch-icon" sizes="144x14
4"/><link href="/apple-touch-icon-57x57.png" rel="apple-touch-icon"/><meta co
ntent="app" name="twitter:card"/><meta content="@flipkart" name="twitter:sit
e"/><meta content="@flipkart" name="twitter:creator"/><meta content="Samsung
```

In [8]:
```python
containers= page_soup.findAll('a',href=True, attrs={'class':'_1fQZEK'})
```

In [9]:
```
containers
```

Out[9]:
```
[<a class="_1fQZEK" href="/samsung-galaxy-f04-opal-green-64-gb/p/itmd0c05f8b0
3876?pid=MOBGKY2V7QZ2QVFS&amp;lid=LSTMOBGKY2V7QZ2QVFSGOGYVU&amp;marketplace=F
LIPKART&amp;q=samsung+mobiles&amp;store=tyy%2F4io&amp;srno=s_1_1&amp;otracker
=search&amp;fm=organic&amp;iid=d849c3b6-3e55-4560-b78b-288951fc5d0a.MOBGKY2V7
QZ2QVFS.SEARCH&amp;ppt=None&amp;ppn=None&amp;ssid=s41zxl1zm800000016762274793
57&amp;qH=0258c7d48242959a" rel="noopener noreferrer" target="_blank"><div cl
ass="MIXNux"><div class="_2QcLo-"><div><div class="CXW8mj" style="height:200p
x;width:200px"><img alt="SAMSUNG Galaxy F04 (Opal Green, 64 GB)" class="_396c
s4" loading="eager" src="https://rukminim1.flixcart.com/image/312/312/xif0q/m
obile/w/d/o/-original-imaghgbyhy6banxv.jpeg?q=70"/></div></div></div><div cla
ss="_3wLduG"><div class="_3PzNI-"><span class="f3A4_V"><label class="_2iDkf8"
><input class="_30VH1S" readonly="" type="checkbox"/><div class="_24_Dny"></d
iv></label></span><label class="_6Up2sF"><span>Add to Compare</span></label>
</div></div><div class="_2hVSre _3nq8ih"><div class="_36FSn5"><svg class="_1l
0elc" height="16" viewbox="0 0 20 16" width="16" xmlns="http://www.w3.org/200
0/svg"><path class="eX72wL" d="M8.695 16.682C4.06 12.382 1 9.536 1 6.065 1 3.
219 3.178 1 5.95 1c1.566 0 3.069.746 4.05 1.915C10.981 1.745 12.484 1 14.05 1
16.822 1 19 3.22 19 6.065c0 3.471-3.06 6.316-7.695 10.617L10 17.897l-1.305-1.
215z" fill="#2874F0" fill-rule="evenodd" opacity=".9" stroke="#FFF"></path></
```

In [10]:
```
print(len(containers))
products=[]
prices=[]
ratings=[]
spec=[]
```

24

```
In [12]: for container in containers:
             name=container.find("div",{"class": "_4rR01T"})
             price=container.find('div',attrs={'class':'_30jeq3 _1_WHN1'})
             rating=container.find('div',attrs={'class':'_3LWZlK'})
             spect=container.findAll('li',attrs={'class':'rgWa7D'})
             doit=container.find('li',attrs={'class':'rgWa7D'})
             new=[]
             for i in spect:
                 new.append(i.text)
             products.append(name.text)
             prices.append(price.text)
             ratings.append(rating.text)
             spec.append(new)
             print(name.text)
```

```
SAMSUNG Galaxy F04 (Opal Green, 64 GB)
SAMSUNG Galaxy F13 (Nightsky Green, 64 GB)
SAMSUNG Galaxy F13 (Waterfall Blue, 64 GB)
SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)
SAMSUNG Galaxy F04 (Jade Purple, 64 GB)
SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)
SAMSUNG Galaxy F13 (Waterfall Blue, 128 GB)
SAMSUNG Galaxy F13 (Sunrise Copper, 64 GB)
SAMSUNG Galaxy F13 (Nightsky Green, 128 GB)
SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)
SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)
SAMSUNG Galaxy F23 5G (Forest Green, 128 GB)
SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)
SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)
SAMSUNG Galaxy F23 5G (Forest Green, 128 GB)
SAMSUNG Galaxy S21 FE 5G (Graphite, 128 GB)
SAMSUNG GURU MUSIC 2
SAMSUNG Guru Music 2
SAMSUNG Galaxy S21 FE 5G (Lavender, 128 GB)
SAMSUNG Galaxy F13 (Sunrise Copper, 128 GB)
SAMSUNG Galaxy S21 FE 5G (Olive, 128 GB)
SAMSUNG Guru Music 2
SAMSUNG Galaxy A23 5G (Silver, 128 GB)
SAMSUNG Galaxy M32 Prime Edition (Light Blue, 64 GB)
```

In [13]:
```python
import pandas as pd
df = pd.DataFrame({'Product Name':products,'Prices':prices,'Ratings':ratings,'
df.to_csv('data.csv')
df
```

Out[13]:

	Product Name	Prices	Ratings	spects
0	SAMSUNG Galaxy F04 (Opal Green, 64 GB)	₹8,999	4.5	[4 GB RAM | 64 GB ROM | Expandable Upto 1 TB, ...
1	SAMSUNG Galaxy F13 (Nightsky Green, 64 GB)	₹9,799	4.4	[4 GB RAM | 64 GB ROM | Expandable Upto 1 TB, ...
2	SAMSUNG Galaxy F13 (Waterfall Blue, 64 GB)	₹9,799	4.4	[4 GB RAM | 64 GB ROM | Expandable Upto 1 TB, ...
3	SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)	₹16,889	4.3	[6 GB RAM | 128 GB ROM, 16.76 cm (6.6 inch) Di...
4	SAMSUNG Galaxy F04 (Jade Purple, 64 GB)	₹8,999	4.5	[4 GB RAM | 64 GB ROM | Expandable Upto 1 TB, ...
5	SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)	₹14,999	4.3	[6 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
6	SAMSUNG Galaxy F13 (Waterfall Blue, 128 GB)	₹10,799	4.4	[4 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
7	SAMSUNG Galaxy F13 (Sunrise Copper, 64 GB)	₹9,799	4.4	[4 GB RAM | 64 GB ROM | Expandable Upto 1 TB, ...
8	SAMSUNG Galaxy F13 (Nightsky Green, 128 GB)	₹10,799	4.4	[4 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
9	SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)	₹14,999	4.3	[6 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
10	SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)	₹13,999	4.2	[4 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
11	SAMSUNG Galaxy F23 5G (Forest Green, 128 GB)	₹14,999	4.3	[6 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
12	SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)	₹13,999	4.2	[4 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
13	SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)	₹16,999	4.3	[6 GB RAM | 128 GB ROM, 16.76 cm (6.6 inch) Di...
14	SAMSUNG Galaxy F23 5G (Forest Green, 128 GB)	₹13,999	4.2	[4 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
15	SAMSUNG Galaxy S21 FE 5G (Graphite, 128 GB)	₹34,999	4.4	[8 GB RAM | 128 GB ROM, 16.26 cm (6.4 inch) Fu...
16	SAMSUNG GURU MUSIC 2	₹2,062	4.1	[8 MB RAM | 0 GB ROM | Expandable Upto 16 GB, ...
17	SAMSUNG Guru Music 2	₹2,059	4.3	[NA ROM, 5.08 cm (2 inch) NA Display, 800 mAh ...
18	SAMSUNG Galaxy S21 FE 5G (Lavender, 128 GB)	₹34,999	4.4	[8 GB RAM | 128 GB ROM, 16.26 cm (6.4 inch) Fu...
19	SAMSUNG Galaxy F13 (Sunrise Copper, 128 GB)	₹10,799	4.4	[4 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
20	SAMSUNG Galaxy S21 FE 5G (Olive, 128 GB)	₹34,999	4.4	[8 GB RAM | 128 GB ROM, 16.26 cm (6.4 inch) Fu...

	Product Name	Prices	Ratings	spects
21	SAMSUNG Guru Music 2	₹2,120	4.3	[NA ROM | Expandable Upto 16 GB, 5.08 cm (2 in...
22	SAMSUNG Galaxy A23 5G (Silver, 128 GB)	₹21,999	4.2	[6 GB RAM | 128 GB ROM | Expandable Upto 1 TB,...
23	SAMSUNG Galaxy M32 Prime Edition	₹12,398	4.2	[4 GB RAM | 64 GB ROM, 16.26 cm (6.4

In [14]:
```python
import pandas as pd
data2 = pd.read_csv("data.csv", encoding="latin-1")
data2
```

Out[14]:

	Unnamed: 0	Product Name	Prices	Ratings	spects
0	0	SAMSUNG Galaxy F04 (Opal Green, 64 GB)	â¹8,999	4.5	['4 GB RAM | 64 GB ROM | Expandable Upto 1 TB'...
1	1	SAMSUNG Galaxy F13 (Nightsky Green, 64 GB)	â¹9,799	4.4	['4 GB RAM | 64 GB ROM | Expandable Upto 1 TB'...
2	2	SAMSUNG Galaxy F13 (Waterfall Blue, 64 GB)	â¹9,799	4.4	['4 GB RAM | 64 GB ROM | Expandable Upto 1 TB'...
3	3	SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)	â¹16,889	4.3	['6 GB RAM | 128 GB ROM', '16.76 cm (6.6 inch)...
4	4	SAMSUNG Galaxy F04 (Jade Purple, 64 GB)	â¹8,999	4.5	['4 GB RAM | 64 GB ROM | Expandable Upto 1 TB'...
5	5	SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)	â¹14,999	4.3	['6 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
6	6	SAMSUNG Galaxy F13 (Waterfall Blue, 128 GB)	â¹10,799	4.4	['4 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
7	7	SAMSUNG Galaxy F13 (Sunrise Copper, 64 GB)	â¹9,799	4.4	['4 GB RAM | 64 GB ROM | Expandable Upto 1 TB'...
8	8	SAMSUNG Galaxy F13 (Nightsky Green, 128 GB)	â¹10,799	4.4	['4 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
9	9	SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)	â¹14,999	4.3	['6 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
10	10	SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)	â¹13,999	4.2	['4 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
11	11	SAMSUNG Galaxy F23 5G (Forest Green, 128 GB)	â¹14,999	4.3	['6 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
12	12	SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)	â¹13,999	4.2	['4 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
13	13	SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)	â¹16,999	4.3	['6 GB RAM | 128 GB ROM', '16.76 cm (6.6 inch)...
14	14	SAMSUNG Galaxy F23 5G (Forest Green, 128 GB)	â¹13,999	4.2	['4 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
15	15	SAMSUNG Galaxy S21 FE 5G (Graphite, 128 GB)	â¹34,999	4.4	['8 GB RAM | 128 GB ROM', '16.26 cm (6.4 inch)...
16	16	SAMSUNG GURU MUSIC 2	â¹2,062	4.1	['8 MB RAM | 0 GB ROM | Expandable Upto 16 GB'...
17	17	SAMSUNG Guru Music 2	â¹2,059	4.3	['NA ROM', '5.08 cm (2 inch) NA Display', '800...
18	18	SAMSUNG Galaxy S21 FE 5G (Lavender, 128 GB)	â¹34,999	4.4	['8 GB RAM | 128 GB ROM', '16.26 cm (6.4 inch)...
19	19	SAMSUNG Galaxy F13 (Sunrise Copper, 128 GB)	â¹10,799	4.4	['4 GB RAM | 128 GB ROM | Expandable Upto 1 TB...
20	20	SAMSUNG Galaxy S21 FE 5G (Olive, 128 GB)	â¹34,999	4.4	['8 GB RAM | 128 GB ROM', '16.26 cm (6.4 inch)...

	Unnamed: 0	Product Name	Prices	Ratings	spects
21	21	SAMSUNG Guru Music 2	â¹2,120	4.3	['NA ROM	Expandable Upto 16 GB', '5.08 cm (2...
22	22	SAMSUNG Galaxy A23 5G (Silver, 128 GB)	â¹21,999	4.2	['6 GB RAM	128 GB ROM	Expandable Upto 1 TB...

Task B.

In order to do that, let's apply the understanding of web scraping on the Amazon website to fetch prices and technical specifications data from the web page. This Amazon link https://www.amazon.in/s?k=samsung&rh=n%3A1389401031&ref=nb_sb_noss (https://www.amazon.in/s?k=samsung&rh=n%3A1389401031&ref=nb_sb_noss) contains information about some features of Samsung phones, including technical specifications, prices, discounts and rating, etc.

In [15]:
```python
# Import useful libraries and classes.
from urllib.request import urlopen as uReq
from bs4 import BeautifulSoup as soup
```

In [16]:
```python
#html upload
my_url="https://www.amazon.in/s?k=samsung&amp;rh=n%3A1389401031&amp;ref=nb_sb_
uClient= uReq(my_url)
page_html= uClient.read()
uClient.close()
```

In [17]:
```python
my_url
```

Out[17]: 'https://www.amazon.in/s?k=samsung&rh=n%3A1389401031&ref=nb_sb_noss'

In [18]:
```python
uClient
```

Out[18]: <http.client.HTTPResponse at 0x7fdabdb9a310>

In [19]:
```python
page_html
```

Out[19]: b'<!doctype html><html lang="en-in" class="a-no-js" data-19ax5a9jf="dingo">
<!-- sp:feature:head-start -->\n<head><script>var aPageStart = (new Date()).g
etTime();</script><meta charset="utf-8"/>\n<!-- sp:end-feature:head-start --
>\n<!-- sp:feature:csm:head-open-part1 -->\n\n<!-- sp:end-feature:csm:head-op
en-part1 -->\n<!-- sp:feature:cs-optimization -->\n<meta http-equiv=\'x-dns-p
refetch-control\' content=\'on\'>\n<link rel="dns-prefetch" href="https://ima
ges-eu.ssl-images-amazon.com">\n<link rel="dns-prefetch" href="https://m.medi
a-amazon.com">\n<link rel="dns-prefetch" href="https://completion.amazon.com"
>\n<!-- sp:end-feature:cs-optimization -->\n<!-- sp:feature:csm:head-open-par
t2 -->\n\n<!-- sp:end-feature:csm:head-open-part2 -->\n<!-- sp:feature:aui-as
sets -->\n<link rel="stylesheet" href="https://m.media-amazon.com/images/I/11
EIQ5IGqaL._RC|01ZTHTZObnL.css,41tGz3DNCrL.css,31ufSReDtSL.css,013z33uKh2L.cs
s,017DsKjNQJL.css,0131vqwP5UL.css,41EWOOlBJ9L.css,11TIuySqr6L.css,01ElnPiDxW
L.css,11Qjwq-j69L.css,01Dm5eKVxwL.css,01IdKcBuAdL.css,01y-XAlI+2L.css,21P6CS3
L9LL.css,01oDR3IULNL.css,41Axm2+z87L.css,01XPHJk60-L.css,01smHc51S9L.css,21aP
hFy+riL.css,11gneA3MtJL.css,21fecG8pUzL.css,11a5wZbuKrL.css,01CFUgsA-YL.css,3
1C80IiXalL.css,11qour3ND0L.css,11gKCCKQV+L.css,11061HxnEvL.css,11oHt2HYxnL.cs
s,01uPgw4sNAL.css,11JQtnL-6eL.css,116v6uYvN6L.css,11jtXRmppwL.css,01QrWuRrZ-
L.css,21uwtfqr5aL.css,11QyqG8yiqL.css,11K24eOJg4L.css,11F2+OBzLyL.css,01890+V
```

In [20]:
```python
page_soup= soup(page_html)
page_soup
```

Out[20]:
```html
<!DOCTYPE html>
<html class="a-no-js" data-19ax5a9jf="dingo" lang="en-in"><!-- sp:feature:hea
d-start -->
<head><script>var aPageStart = (new Date()).getTime();</script><meta charset
="utf-8"/>
<!-- sp:end-feature:head-start -->
<!-- sp:feature:csm:head-open-part1 -->
<!-- sp:end-feature:csm:head-open-part1 -->
<!-- sp:feature:cs-optimization -->
<meta content="on" http-equiv="x-dns-prefetch-control"/>
<link href="https://images-eu.ssl-images-amazon.com" rel="dns-prefetch"/>
<link href="https://m.media-amazon.com" rel="dns-prefetch"/>
<link href="https://completion.amazon.com" rel="dns-prefetch"/>
<!-- sp:end-feature:cs-optimization -->
<!-- sp:feature:csm:head-open-part2 -->
<!-- sp:end-feature:csm:head-open-part2 -->
<!-- sp:feature:aui-assets -->
<link href="https://m.media-amazon.com/images/I/11EIQ5IGqaL._RC|01ZTHTZObnL.c
ss,41tGz3DNCrL.css,31ufSReDtSL.css,013z33uKh2L.css,017DsKjNQJL.css,0131vqwP5U
```

In [21]:
```python
#read class from web page.
containers= page_soup.findAll("div", {"class": "s-result-item"})
containers
```

Out[21]:
```
[<div class="a-section a-spacing-none s-result-item s-flex-full-width s-borde
r-bottom-none s-widget s-widget-spacing-large" data-asin="" data-index="0"><d
iv cel_widget_id="MAIN-TOP_BANNER_MESSAGE-0" class="s-widget-container s-spac
ing-mini s-widget-container-height-mini celwidget slot=MAIN template=TOP_BANN
ER_MESSAGE widgetId=messaging-messages-results-header-builder" data-uuid="5a5
2a5ca-d186-410f-9769-6980f3d30ba3">
 <span class="rush-component" data-component-type="s-messaging-widget-results
-header">
 <div class="a-section a-spacing-none s-messaging-widget-results-header">
 <div class="s-no-outline" tabindex="0">
 <span class="a-size-medium-plus a-color-base a-text-normal">RESULTS</span>
 </div>
 </div>
 </span>
 </div></div>,
 <div class="sg-col-20-of-24 s-result-item s-asin sg-col-0-of-12 sg-col-16-of
-20 sg-col s-widget-spacing-small sg-col-12-of-16" data-asin="B09TWGDY4W" dat
a-component-type="s-search-result" data-index="1" data-uuid="c34d0e0d-28a6-44
c0-8ba6-780b203f8fa2"><div class="sg-col-inner"><div cel_widget_id="MAIN-SEAR
CH_RESULTS-1" class="s-widget-container a-spacing-small s-widget-container-he
```

In [22]:
```python
print(len(containers))
name2=[]
prices2=[]
specs2=[]
discount2=[]
rating2=[]
```

```
29
```

```python
In [23]: for item in containers:
             name = item.find("span", class_="a-size-medium a-color-base a-text-normal"
             if name:
                 print("Name:", name.text)
                 name2.append(name.text)
             else:
                 continue
             price = item.find("span", class_="a-offscreen")
             if price:
                 prices2.append(price.text)
                 print("Price:", price.text)
             else:
                 prices2.append("Not available")
                 print("Price: Not available")
             specs = item.find("span", class_="a-size-base-plus")
             if specs:
                 specs2.append(specs.text)
                 print("Specs:", specs.text)
             else:
                 specs2.append("Not available")
                 print("Specs: Not available")
             discount = item.find("span", class_="a-letter-space")
             if discount:
                 discount2.append(discount.text)
                 print("Discount:", discount.text)
             else:
                 discount2.append("Not available")
                 print("Discount: Not available")
             rating = item.find("span", class_="a-icon-alt")
             if rating:
                 rating2.append(rating.text)
                 print("Rating:", rating.text)
             else:
                 rating2.append("Not available")
                 print("Rating: Not available")
             print("\n")
```

```
Name: Samsung Galaxy M33 5G (Mystique Green, 6GB, 128GB Storage) | 6000mAh Ba
ttery | Upto 12GB RAM with RAM Plus | Travel Adapter to be Purchased Separate
ly
Price: ₹15,999
Specs: Not available
Discount:
Rating: 4.1 out of 5 stars


Name: Samsung Galaxy M13 (Aqua Green, 6GB, 128GB Storage) | 6000mAh Battery |
Upto 12GB RAM with RAM Plus
Price: Not available
Specs: Not available
Discount:
Rating: 4.1 out of 5 stars


Name: Samsung Galaxy S20 FE 5G (Cloud Mint, 8GB RAM, 128GB Storage)
```

```
Price: ₹29,999
```

In [24]:
```python
import pandas as pd
df1 = pd.DataFrame({'Product Name':name2,'Prices':prices2,'Ratings':rating2,'s
df1
```

Out[24]:

	Product Name	Prices	Ratings	spects	Discount
0	Samsung Galaxy M33 5G (Mystique Green, 6GB, 12...	₹15,999	4.1 out of 5 stars	Not available	
1	Samsung Galaxy M13 (Aqua Green, 6GB, 128GB Sto...	Not available	4.1 out of 5 stars	Not available	
2	Samsung Galaxy S20 FE 5G (Cloud Mint, 8GB RAM,...	₹29,999	4.2 out of 5 stars	Not available	
3	Samsung Galaxy M04 Light Green, 4GB RAM, 64GB ...	₹8,999	4.0 out of 5 stars	Not available	
4	Samsung Galaxy M04 Dark Blue, 4GB RAM, 64GB St...	₹8,999	4.0 out of 5 stars	Not available	
5	Samsung Galaxy M04 Light Green, 4GB RAM, 128GB...	₹9,999	4.0 out of 5 stars	Not available	
6	Samsung Galaxy M13 5G (Aqua Green, 4GB, 64GB S...	₹11,999	4.1 out of 5 stars	Not available	
7	Samsung Galaxy M53 5G (Deep Ocean Blue, 6GB, 1...	₹21,999	3.9 out of 5 stars	Not available	
8	Samsung Galaxy M32 Prime Edition (Light Blue, ...	₹12,999	4.1 out of 5 stars	Not available	
9	Samsung Galaxy A23 5G, Light Blue (6GB, 128GB ...	₹21,999	3.6 out of 5 stars	Not available	
10	Samsung Galaxy S20 FE 5G (Cloud Lavender, 8GB ...	₹29,999	4.2 out of 5 stars	Not available	
11	Samsung Galaxy S20 FE 5G (Cloud Navy, 8GB RAM,...	₹29,999	4.2 out of 5 stars	Not available	
12	Samsung Galaxy S21 FE 5G (Lavender, 8GB, 128GB...	₹39,079	4.1 out of 5 stars	Not available	
13	Samsung Galaxy S22 5G (Phantom White, 8GB RAM,...	₹52,999	4.3 out of 5 stars	Not available	
14	Samsung Galaxy M04 Dark Blue, 4GB RAM, 128GB S...	₹9,999	4.0 out of 5 stars	Not available	
15	Samsung Galaxy S22 5G (Phantom Black, 8GB, 128...	₹52,999	4.3 out of 5 stars	Not available	
16	Samsung Galaxy M33 5G (Emerald Brown, 6GB, 128...	₹15,999	4.1 out of 5 stars	Not available	
17	Samsung Galaxy M33 5G (Mystique Green, 8GB, 12...	₹17,499	4.1 out of 5 stars	Not available	
18	Samsung Galaxy S23 5G (Phantom Black, 8GB, 256...	₹79,999	Not available	Not available	
19	Samsung Original EHS64 Wired in Ear Earphones ...	₹399	4.2 out of 5 stars	Not available	
20	Samsung 25W USB Travel Adapter for Cellular Ph...	₹1,199	4.4 out of 5 stars	Not available	

	Product Name	Prices	Ratings	spects	Discount
21	Samsung Galaxy M33 5G (Deep Ocean Blue, 6GB, 1...	₹15,999	4.1 out of 5 stars	Not available	
22	Samsung Galaxy M33 5G (Emerald Brown, 8GB, 128...	₹17,499	4.1 out of 5 stars	Not available	

In [25]:
```python
df1.to_csv('data2.csv')
data = pd.read_csv("data2.csv", encoding="latin-1")
data
```

Out[25]:

	Unnamed: 0	Product Name	Prices	Ratings	spects	Discount
0	0	Samsung Galaxy M33 5G (Mystique Green, 6GB, 12...	â¹15,999	4.1 out of 5 stars	Not available	NaN
1	1	Samsung Galaxy M13 (Aqua Green, 6GB, 128GB Sto...	Not available	4.1 out of 5 stars	Not available	NaN
2	2	Samsung Galaxy S20 FE 5G (Cloud Mint, 8GB RAM,...	â¹29,999	4.2 out of 5 stars	Not available	NaN
3	3	Samsung Galaxy M04 Light Green, 4GB RAM, 64GB ...	â¹8,999	4.0 out of 5 stars	Not available	NaN
4	4	Samsung Galaxy M04 Dark Blue, 4GB RAM, 64GB St...	â¹8,999	4.0 out of 5 stars	Not available	NaN
5	5	Samsung Galaxy M04 Light Green, 4GB RAM, 128GB...	â¹9,999	4.0 out of 5 stars	Not available	NaN
6	6	Samsung Galaxy M13 5G (Aqua Green, 4GB, 64GB S...	â¹11,999	4.1 out of 5 stars	Not available	NaN
7	7	Samsung Galaxy M53 5G (Deep Ocean Blue, 6GB, 1...	â¹21,999	3.9 out of 5 stars	Not available	NaN
8	8	Samsung Galaxy M32 Prime Edition (Light Blue, ...	â¹12,999	4.1 out of 5 stars	Not available	NaN
9	9	Samsung Galaxy A23 5G, Light Blue (6GB, 128GB ...	â¹21,999	3.6 out of 5 stars	Not available	NaN
10	10	Samsung Galaxy S20 FE 5G (Cloud Lavender, 8GB ...	â¹29,999	4.2 out of 5 stars	Not available	NaN
11	11	Samsung Galaxy S20 FE 5G (Cloud Navy, 8GB RAM,...	â¹29,999	4.2 out of 5 stars	Not available	NaN
12	12	Samsung Galaxy S21 FE 5G (Lavender, 8GB, 128GB...	â¹39,079	4.1 out of 5 stars	Not available	NaN
13	13	Samsung Galaxy S22 5G (Phantom White, 8GB RAM,...	â¹52,999	4.3 out of 5 stars	Not available	NaN
14	14	Samsung Galaxy M04 Dark Blue, 4GB RAM, 128GB S...	â¹9,999	4.0 out of 5 stars	Not available	NaN
15	15	Samsung Galaxy S22 5G (Phantom Black, 8GB, 128...	â¹52,999	4.3 out of 5 stars	Not available	NaN
16	16	Samsung Galaxy M33 5G (Emerald Brown, 6GB, 128...	â¹15,999	4.1 out of 5 stars	Not available	NaN
17	17	Samsung Galaxy M33 5G (Mystique Green, 8GB, 12...	â¹17,499	4.1 out of 5 stars	Not available	NaN
18	18	Samsung Galaxy S23 5G (Phantom Black, 8GB, 256...	â¹79,999	Not available	Not available	NaN
19	19	Samsung Original EHS64 Wired in Ear Earphones ...	â¹399	4.2 out of 5 stars	Not available	NaN
20	20	Samsung 25W USB Travel Adapter for Cellular Ph...	â¹1,199	4.4 out of 5 stars	Not available	NaN

	Unnamed: 0	Product Name	Prices	Ratings	spects	Discount
21	21	Samsung Galaxy M33 5G (Deep Ocean Blue, 6GB, 1...	â¹15,999	4.1 out of 5 stars	Not available	NaN
22	22	Samsung Galaxy M33 5G (Emerald Brown, 8GB, 128...	â¹17,499	4.1 out of 5 stars	Not available	NaN

Create a CSV file for the Task A & B containing all the possible details.

a. Get the phone details with min and max price of the phone in Amazon & flipkart.

b. Get the price of Samsung Galaxy F12 options available with price comparison in Amazon & flipkart.

In [27]:
```python
#data and data2
print('amazon max price',df['Prices'].max())
print('amazon min price',df['Prices'].min())
print('flipkart max price',df1['Prices'].max())
print('flipkart min price',df1['Prices'].min())
```

```
amazon max price ₹9,799
amazon min price ₹10,799
flipkart max price ₹9,999
flipkart min price Not available
```

```python
In [28]:  print('phones in on amazon',df['Product Name'].unique())
          print('phones in on flipkart',df1['Product Name'].unique())
```

```
phones in on amazon ['SAMSUNG Galaxy F04 (Opal Green, 64 GB)'
 'SAMSUNG Galaxy F13 (Nightsky Green, 64 GB)'
 'SAMSUNG Galaxy F13 (Waterfall Blue, 64 GB)'
 'SAMSUNG Galaxy F23 5G (Aqua Blue, 128 GB)'
 'SAMSUNG Galaxy F04 (Jade Purple, 64 GB)'
 'SAMSUNG Galaxy F13 (Waterfall Blue, 128 GB)'
 'SAMSUNG Galaxy F13 (Sunrise Copper, 64 GB)'
 'SAMSUNG Galaxy F13 (Nightsky Green, 128 GB)'
 'SAMSUNG Galaxy F23 5G (Copper Blush, 128 GB)'
 'SAMSUNG Galaxy F23 5G (Forest Green, 128 GB)'
 'SAMSUNG Galaxy S21 FE 5G (Graphite, 128 GB)' 'SAMSUNG GURU MUSIC 2'
 'SAMSUNG Guru Music 2' 'SAMSUNG Galaxy S21 FE 5G (Lavender, 128 GB)'
 'SAMSUNG Galaxy F13 (Sunrise Copper, 128 GB)'
 'SAMSUNG Galaxy S21 FE 5G (Olive, 128 GB)'
 'SAMSUNG Galaxy A23 5G (Silver, 128 GB)'
 'SAMSUNG Galaxy M32 Prime Edition (Light Blue, 64 GB)']
phones in on flipkart ['Samsung Galaxy M33 5G (Mystique Green, 6GB, 128GB Sto
rage) | 6000mAh Battery | Upto 12GB RAM with RAM Plus | Travel Adapter to be
Purchased Separately'
 'Samsung Galaxy M13 (Aqua Green, 6GB, 128GB Storage) | 6000mAh Battery | Upt
o 12GB RAM with RAM Plus'
 'Samsung Galaxy S20 FE 5G (Cloud Mint, 8GB RAM, 128GB Storage)'
 'Samsung Galaxy M04 Light Green, 4GB RAM, 64GB Storage | Upto 8GB RAM with R
AM Plus | MediaTek Helio P35 | 5000 mAh Battery'
 'Samsung Galaxy M04 Dark Blue, 4GB RAM, 64GB Storage | Upto 8GB RAM with RAM
Plus | MediaTek Helio P35 | 5000 mAh Battery'
 'Samsung Galaxy M04 Light Green, 4GB RAM, 128GB Storage | Upto 8GB RAM with
RAM Plus | MediaTek Helio P35 | 5000 mAh Battery'
 'Samsung Galaxy M13 5G (Aqua Green, 4GB, 64GB Storage) | 5000mAh Battery | U
pto 8GB RAM with RAM Plus'
 'Samsung Galaxy M53 5G (Deep Ocean Blue, 6GB, 128GB Storage) | 108MP | sAmol
ed+ 120Hz | 12GB RAM with RAM Plus | Travel Adapter to be Purchased Separatel
y'
 'Samsung Galaxy M32 Prime Edition (Light Blue, 6GB RAM, 128GB)'
 'Samsung Galaxy A23 5G, Light Blue (6GB, 128GB Storage) with Offer'
 'Samsung Galaxy S20 FE 5G (Cloud Lavender, 8GB RAM, 128GB Storage) with No C
ost EMI & Additional Exchange Offers'
 'Samsung Galaxy S20 FE 5G (Cloud Navy, 8GB RAM, 128GB Storage) with No Cost
EMI & Additional Exchange Offers'
 'Samsung Galaxy S21 FE 5G (Lavender, 8GB, 128GB Storage)'
 'Samsung Galaxy S22 5G (Phantom White, 8GB RAM, 128GB Storage) with No Cost
EMI/Additional Exchange Offers'
 'Samsung Galaxy M04 Dark Blue, 4GB RAM, 128GB Storage | Upto 8GB RAM with RA
M Plus | MediaTek Helio P35 | 5000 mAh Battery'
 'Samsung Galaxy S22 5G (Phantom Black, 8GB, 128GB Storage) with No Cost EMI/
Additional Exchange Offers'
 'Samsung Galaxy M33 5G (Emerald Brown, 6GB, 128GB Storage) | 6000mAh Battery
| Upto 12GB RAM with RAM Plus | Travel Adapter to be Purchased Separately'
 'Samsung Galaxy M33 5G (Mystique Green, 8GB, 128GB Storage) | 6000mAh Batter
y | Upto 16GB RAM with RAM Plus | Travel Adapter to be Purchased Separately'
 'Samsung Galaxy S23 5G (Phantom Black, 8GB, 256GB Storage)'
 'Samsung Original EHS64 Wired in Ear Earphones with Mic, Black'
 'Samsung 25W USB Travel Adapter for Cellular Phones - White'
```

```
   'Samsung Galaxy M33 5G (Deep Ocean Blue, 6GB, 128GB Storage) | 6000mAh Batte
 ry | Upto 12GB RAM with RAM Plus | Travel Adapter to be Purchased Separately'
   'Samsung Galaxy M33 5G (Emerald Brown, 8GB, 128GB Storage) | 6000mAh Battery
 | 16GB RAM with RAM Plus | Travel Adapter to be Purchased Separately'
   'Samsung Galaxy A73 5G Awesome White, 8GB RAM, 128GB Storage']
```

In [29]: `print('we didnt find the f12 in these phones')`

we didnt find the f12 in these phones

In [ ]: