

## Web Scrapping

```
In [1]: # importing required libraries
import requests
import bs4
from bs4 import BeautifulSoup as bs
import urllib
```

```
In [2]: link='https://www.flipkart.com/search?q=phone&otracker=search&otracker1=search&ma
page = requests.get(link)
txt=page.content
```

```
In [3]: soup = bs4.BeautifulSoup(txt,"lxml")
soup
```

```
Out[3]: <!DOCTYPE html>
<html lang="en"><head><link href="https://rukminim1.flixcart.com" rel="precon
nect"/><link href="//static-assets-web.flixcart.com/www/linchpin/fk-cp-zion/c
ss/app_modules.chunk.94b5e7.css" rel="stylesheet"/><link href="//static-asset
s-web.flixcart.com/www/linchpin/fk-cp-zion/css/app.chunk.493c50.css" rel="sty
lesheet"/><meta content="text/html; charset=utf-8" http-equiv="Content-type"/
><meta content="IE=Edge" http-equiv="X-UA-Compatible"/><meta content="1029882
93558" property="fb:page_id"/><meta content="658873552,624500995,100000233612
389" property="fb:admins"/><meta content="noodp" name="robots"/><link href="h
ttps://static-assets-web.flixcart.com/www/promos/new/20150528-140547-favicon-
retina.ico" rel="shortcut icon"/><link href="/osdd.xml?v=2" rel="search" type
="application/opensearchdescription+xml"/><meta content="website" property="o
g:type"/><meta content="Flipkart.com" name="og_site_name" property="og:site_n
ame"/><link href="/apple-touch-icon-57x57.png" rel="apple-touch-icon" sizes
="57x57"/><link href="/apple-touch-icon-72x72.png" rel="apple-touch-icon" siz
es="72x72"/><link href="/apple-touch-icon-114x114.png" rel="apple-touch-icon"
sizes="114x114"/><link href="/apple-touch-icon-144x144.png" rel="apple-touch-
icon" sizes="144x144"/><link href="/apple-touch-icon-57x57.png" rel="apple-to
uch-icon"/><meta content="app" name="twitter:card"/><meta content="@flipkart"
name="twitter:site"/><meta content="@flipkart" name="twitter:creator"/><meta
```

```
In [4]: title_tag=soup.select('title')
print(soup.title.string)
```

Phone- Buy Products Online at Best Price in India - All Categories | Flipkart.com

```
In [5]: type(title_tag[0])
```

```
Out[5]: bs4.element.Tag
```

### visual representation of data



```
In [9]: specification=soup.find('div',class_="fMghEO")
print(specification)
specification.text
```

```
<div class="fMghEO"><ul class="_1xgFaf"><li class="rgWa7D">6 GB RAM | 128 GB ROM | Expandable Upto 1 TB</li><li class="rgWa7D">16.51 cm (6.5 inch) Full HD+ Display</li><li class="rgWa7D">48MP + 2MP + 2MP | 16MP Front Camera</li><li class="rgWa7D">5000 mAh Lithium Polymer Battery</li><li class="rgWa7D">Mediatek Dimensity 810 Processor</li><li class="rgWa7D">1 Year Warranty for Phone and 6 Months Warranty for In-Box Accessories</li></ul></div>
```

```
Out[9]: '6 GB RAM | 128 GB ROM | Expandable Upto 1 TB16.51 cm (6.5 inch) Full HD+ Display48MP + 2MP + 2MP | 16MP Front Camera5000 mAh Lithium Polymer BatteryMediatek Dimensity 810 Processor1 Year Warranty for Phone and 6 Months Warranty for In-Box Accessories'
```

```
In [10]: # printing each specification separately
for each in specification:
    spec=each.find_all('li',class_='rgWa7D')
    print(spec[0].text)
    print(spec[1].text)
    print(spec[2].text)
    print(spec[4].text)
    print(spec[5].text)
```

```
6 GB RAM | 128 GB ROM | Expandable Upto 1 TB
16.51 cm (6.5 inch) Full HD+ Display
48MP + 2MP + 2MP | 16MP Front Camera
Mediatek Dimensity 810 Processor
1 Year Warranty for Phone and 6 Months Warranty for In-Box Accessories
```

### Extracting Price of the Product

```
In [11]: price=soup.find('div',class_="_30jeq3 _1_WHN1")
price.text
```

```
Out[11]: '₹17,499'
```

### Extracting the data of all the Mobiles available on the page.

```
In [12]: # creating list to store the data.
products=[]
prices=[]
ratings=[]
ram_rom = []
display = []
camera = []
battery = []
processor = []
warranty = []
```

```
In [13]: for data in soup.findAll('div',class_="_3ply-c row"):
        names=data.find('div', attrs={'class': '_4rR01T'})
        price=data.find('div', attrs={'class': '_30jeq3 _1_WHN1'})
        rating=data.find('div', attrs={'class': '_3LWZ1K'})
        specification = data.find('div', attrs={'class': 'fMghEO'})
        for each in specification:
            col=each.find_all('li', attrs={'class': 'rgWa7D'})
            ram_rom_ = col[0].text
            display_ = col[1].text
            camera_ = col[2].text
            Battery_ = col[3].text
            processor_ = col[4].text
            warranty_ = col[5].text
        # Adding all elements in Lists
        products.append(names.text)
        prices.append(price.text)
        ratings.append(rating.text)
        ram_rom.append(ram_rom_)
        display.append(display_)
        camera.append(camera_)
        battery.append(Battery_)
        processor.append(processor_)
        warranty.append(warranty_)
```

```
In [14]: #printing the length of each List(To know how many values/product are present in
print(len(products))
print(len(prices))
print(len(ratings))
print(len(ram_rom))
print(len(camera))
print(len(battery))
print(len(processor))
print(len(warranty))
```

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**Storing the data into the structured format in the Data Frame.**

```
In [15]: import pandas as pd
df=pd.DataFrame({'Product Name':products,'prices':prices,'ratings':ratings,"ram_rom":ram_rom,
'camera':camera,'battery':battery,'processor':processor,'warranty':warranty},
df
```

Out[15]:

	Product Name	prices	ratings	ram_rom	camera	battery	processor	warranty
1	realme 9 5G (Supersonic Blue, 128 GB)	₹17,499	4.4	6 GB RAM   128 GB ROM   Expandable Upto 1 TB	48MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium Polymer Battery	Mediatek Dimensity 810 Processor	1 Year Warranty for Phone and 6 Months Warrant...
2	realme 9 5G (Supersonic Black, 128 GB)	₹17,499	4.4	6 GB RAM   128 GB ROM   Expandable Upto 1 TB	48MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium Polymer Battery	Mediatek Dimensity 810 Processor	1 Year Warranty for Phone and 6 Months Warrant...
3	realme 9 5G (Stargaze White, 64 GB)	₹15,999	4.5	4 GB RAM   64 GB ROM   Expandable Upto 1 TB	48MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium Polymer Battery	Mediatek Dimensity 810 Processor	1 Year Warranty for Phone and 6 Months Warrant...
4	Itel Magic2 4G(WiFi,Hotspot Tethering)	₹2,389	4	64 MB RAM   128 MB ROM   Expandable Upto 64 GB	1.3MP Rear Camera	1900 mAh Lithium ion Battery	Unisoc T117 Processor	1 Year Warranty, 100 Days Replacement within 1...
5	realme 9 5G (Meteor Black, 64 GB)	₹15,999	4.5	4 GB RAM   64 GB ROM   Expandable Upto 1 TB	48MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium Polymer Battery	Mediatek Dimensity 810 Processor	1 Year Warranty for Phone and 6 Months Warrant...
6	realme 9 5G (Supersonic Blue, 64 GB)	₹15,999	4.5	4 GB RAM   64 GB ROM   Expandable Upto 1 TB	48MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium Polymer Battery	Mediatek Dimensity 810 Processor	1 Year Warranty for Phone and 6 Months Warrant...
7	realme Narzo 50A (Oxygen Green, 64 GB)	₹11,499	4.4	4 GB RAM   64 GB ROM   Expandable Upto 256 GB	50MP + 2MP + 2MP   8MP Front Camera	6000 mAh Battery	MediaTek Helio G85 Processor	1 Year Warranty for Mobile and 6 Months for Ac...
8	realme Narzo 50A (Oxygen Green, 128 GB)	₹12,499	4.4	4 GB RAM   128 GB ROM   Expandable Upto 256 GB	50MP + 2MP + 2MP   8MP Front Camera	6000 mAh Battery	MediaTek Helio G85 Processor	1 Year Warranty for Mobile and 6 Months for Ac...
9	realme C11 2021 (Cool Grey, 32 GB)	₹7,499	4.4	2 GB RAM   32 GB ROM   Expandable Upto 256 GB	8MP Rear Camera   5MP Front Camera	5000 mAh Battery	Octa-core Processor	1 Year Warranty for Mobile and 6 Months for Ac...

	Product Name	prices	ratings	ram_rom	camera	battery	processor	warranty
10	realme C11 2021 (Cool Blue, 32 GB)	₹7,499	4.4	2 GB RAM   32 GB ROM   Expandable Upto 256 GB	8MP Rear Camera   5MP Front Camera	5000 mAh Battery	Octa-core Processor	1 Year Warranty for Mobile and 6 Months for Ac...
11	realme Narzo 50A (Oxygen Blue, 128 GB)	₹12,499	4.4	4 GB RAM   128 GB ROM   Expandable Upto 256 GB	50MP + 2MP + 2MP   8MP Front Camera	6000 mAh Battery	MediaTek Helio G85 Processor	1 Year Warranty for Mobile and 6 Months for Ac...
12	realme C11 2021 (Cool Blue, 64 GB)	₹8,999	4.3	4 GB RAM   64 GB ROM   Expandable Upto 256 GB	8MP Rear Camera   5MP Front Camera	5000 mAh Battery	Octa-core Processor	1 Year Warranty for Mobile and 6 Months for Ac...
13	realme C11 2021 (Cool Grey, 64 GB)	₹8,999	4.3	4 GB RAM   64 GB ROM   Expandable Upto 256 GB	8MP Rear Camera   5MP Front Camera	5000 mAh Battery	Octa-core Processor	1 Year Warranty for Mobile and 6 Months for Ac...
14	realme 9 5G (Meteor Black, 128 GB)	₹17,499	4.4	6 GB RAM   128 GB ROM   Expandable Upto 1 TB	48MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium Polymer Battery	Mediatek Dimensity 810 Processor	1 Year Warranty for Phone and 6 Months Warrant...
15	OPPO F19 (Space Silver, 128 GB)	₹18,970	4.3	6 GB RAM   128 GB ROM   Expandable Upto 256 GB	48MP + 2MP + 2MP   16MP Front Camera	5000 mAh Battery	Qualcomm Snapdragon 662 Processor	Brand Warranty of 1 Year Available for Mobile ...
16	Infinix HOT 12 Play (Horizon Blue, 64 GB)	₹8,999	4.3	4 GB RAM   64 GB ROM   Expandable Upto 256 GB	13MP + Depth Lens   8MP Front Camera	6000 mAh Li-ion Polymer Battery	Unisoc T610 Processor	1 Year on Handset And 6 Months on Accessories
17	POCO C31 (Royal Blue, 64 GB)	₹9,499	4.4	4 GB RAM   64 GB ROM   Expandable Upto 512 GB	13MP + 2MP + 2MP   5MP Front Camera	5000 mAh Lithium-ion Polymer Battery	MediaTek Helio G35 Processor	1 Year Warranty for Handset, 6 Months for Acce...
18	Infinix HOT 12 Play (Daylight Green, 64 GB)	₹8,999	4.3	4 GB RAM   64 GB ROM   Expandable Upto 256 GB	13MP + Depth Lens   8MP Front Camera	6000 mAh Li-ion Polymer Battery	Unisoc T610 Processor	1 Year on Handset And 6 Months on Accessories
19	REDMI 9i Sport (Carbon Black, 64 GB)	₹8,799	4.4	4 GB RAM   64 GB ROM   Expandable Upto 512 GB	13MP Rear Camera   5MP Front Camera	5000 mAh Li-Polymer Battery	MediaTek Helio G25 Processor	Brand Warranty of 1 Year Available for Mobile ...

	Product Name	prices	ratings	ram_rom	camera	battery	processor	warranty
20	MOTOROLA g31 (Baby Blue, 64 GB)	₹10,499	4.2	4 GB RAM   64 GB ROM   Expandable Upto 1 TB	50MP + 8MP + 2MP   13MP Front Camera	5000 mAh LiPo Battery	Mediatek Helio G85 Processor	1 Year on Handset and 6 Months on Accessories
21	realme 9i (Prism Blue, 128 GB)	₹15,999	4.5	6 GB RAM   128 GB ROM   Expandable Upto 1 TB	50MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium ion Battery	Qualcomm Snapdragon 680 (SM6225) Processor	1 Year Manufacturer Warranty for Phone and 6 M...
22	realme 9i (Prism Blue, 64 GB)	₹13,499	4.5	4 GB RAM   64 GB ROM   Expandable Upto 1 TB	50MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium ion Battery	Qualcomm Snapdragon 680 (SM6225) Processor	1 Year Manufacturer Warranty for Phone and 6 M...
23	realme 9i (Prism Black, 128 GB)	₹15,999	4.5	6 GB RAM   128 GB ROM   Expandable Upto 1 TB	50MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium ion Battery	Qualcomm Snapdragon 680 (SM6225) Processor	1 Year Manufacturer Warranty for Phone and 6 M...
24	realme 9i (Prism Black, 128 GB)	₹14,999	4.5	4 GB RAM   128 GB ROM   Expandable Upto 1 TB	50MP + 2MP + 2MP   16MP Front Camera	5000 mAh Lithium ion Battery	Qualcomm Snapdragon 680 (SM6225) Processor	1 Year Manufacturer Warranty for Phone and 6 M...