EVOASTRA Mini Project

Web Scraping Car Details from Cars24.com

- **Team**: CP33 – Team B
- **Topic**: **Honda Car Listings (Mumbai)**
- **Tools Used**: Python, Selenium, Pandas
- **Mentor:** Aniket Manwatkar
- **Team Members**:
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  6. Monu Kumar Jha

PROJECT OBJECTIVE

- Develop skills in web scraping and data analysis.
- Extract and analyze car details from Cars24.com (Mumbai).

Focused brand: **Honda**

Data Fields extracted:

- Name
- Brand
- Model
- Year
- Kilometers
- fuel_type
- transmission
- price_inr
- age_years_2025

Project Requirements

Tasks:

1. Scrape car data for assigned brand & location.
2. Collect 5 key attributes per car listing.
3. Save results to a CSV file for analysis.

Deliverables:

1. .ipynb notebook
2. Presentation (PDF)
3. Project Report

Tools & Libraries Used

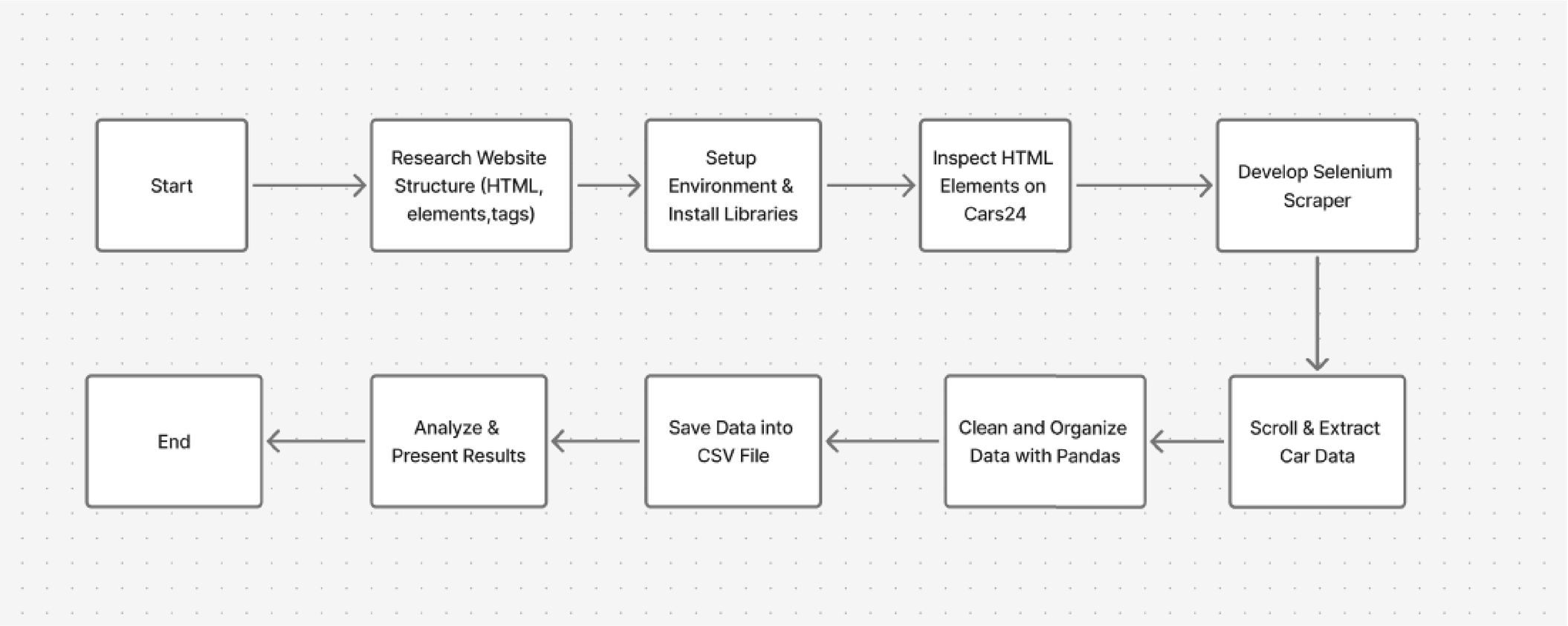
Library	Purpose
Selenium 	Automate browser & scrape dynamic data
Pandas 	Data cleaning and storage
Regex (re) 	Text extraction and pattern matching
Time	Control delays during scraping
Chrome WebDriver	Browser automation engine

Implementation Workflow

Web Scraping with Selenium + BeautifulSoup

HTML

pandas



Step 1 – Installing Dependencies

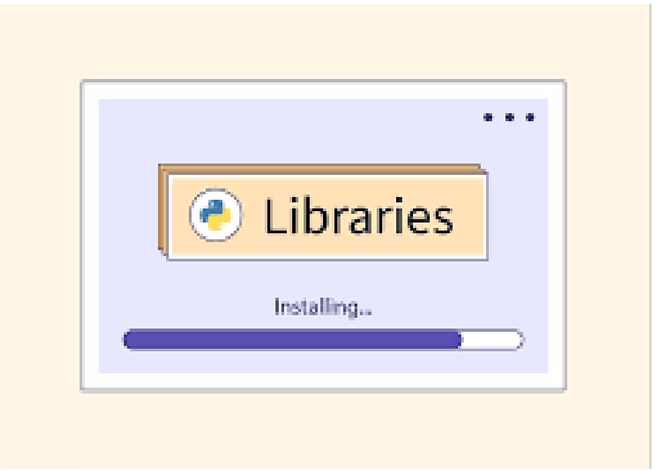
```
[ ]: !pip install selenium
     !pip install pandas
```

Ensures all necessary packages for scraping and analysis are installed.

Step 2 – Importing Libraries

```
[ ]: from selenium import webdriver
     from selenium.webdriver.common.by import By
     from selenium.webdriver.support.ui import WebDriverWait
     from selenium.webdriver.support import expected_conditions as EC
     from selenium.webdriver.chrome.options import Options
     import time
     import pandas as pd
     import re
```

Imports tools for automation, parsing, and data handling.



Step 3 – Cars24Scraper Class

- Initializes ChromeDriver in headless mode.
- Handles website navigation and scrolling.
- Extracts details: name, year, fuel, transmission, price.
- Stores clean data into DataFrame → CSV.
- Includes error handling for missing or dynamic data.

Step 4- Data Extraction & Scrolling Logic

- Continuous scrolling until all listings load.
- CSS Selectors to target car elements.
- Custom function to extract multiple price formats.
- Handles both "₹Lakh" and "₹L" notations.

Sample Data:

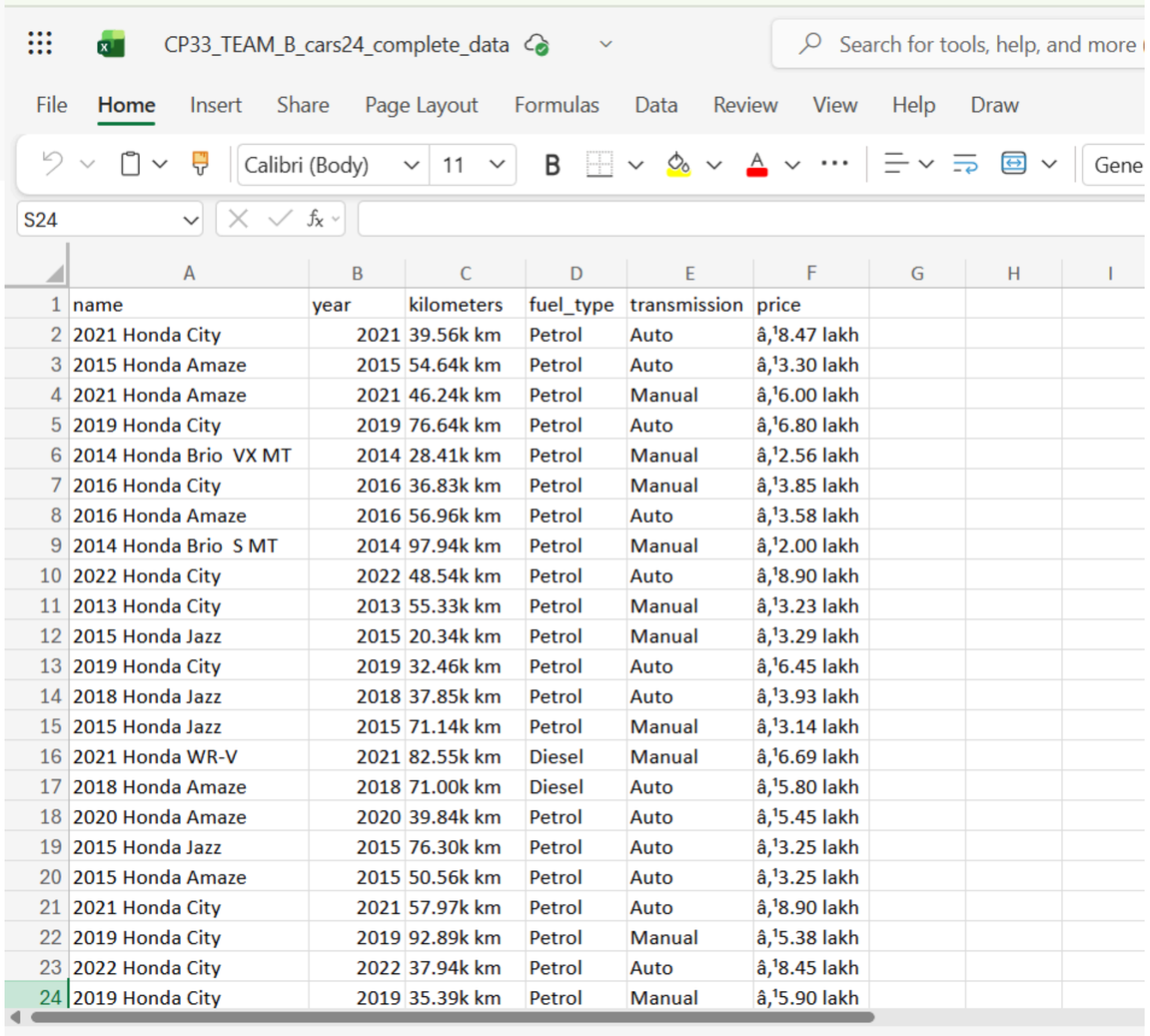
	name	year	kilometers	fuel_type	transmission	price
0	2021 Honda City	2021	39.56k km	Petrol	Auto	₹8.47 lakh
1	2015 Honda Amaze	2015	54.64k km	Petrol	Auto	₹3.30 lakh
2	2021 Honda Amaze	2021	46.24k km	Petrol	Manual	₹6.00 lakh
3	2019 Honda City	2019	76.64k km	Petrol	Auto	₹6.80 lakh
4	2014 Honda Brio VX MT	2014	28.41k km	Petrol	Manual	₹2.56 lakh
...	...	...	...	...	...	...
193	2022 Honda City	2022	24.05k km	Petrol	Manual	₹9.00 lakh
194	2013 Honda Brio V MT	2013	22.67k km	Petrol	Manual	₹2.15 lakh
195	2013 Honda City	2013	23.57k km	Petrol	Manual	₹2.70 lakh

Step 4 – Saving Data

```
df.to_csv("cars24_data.csv", index=False)
```

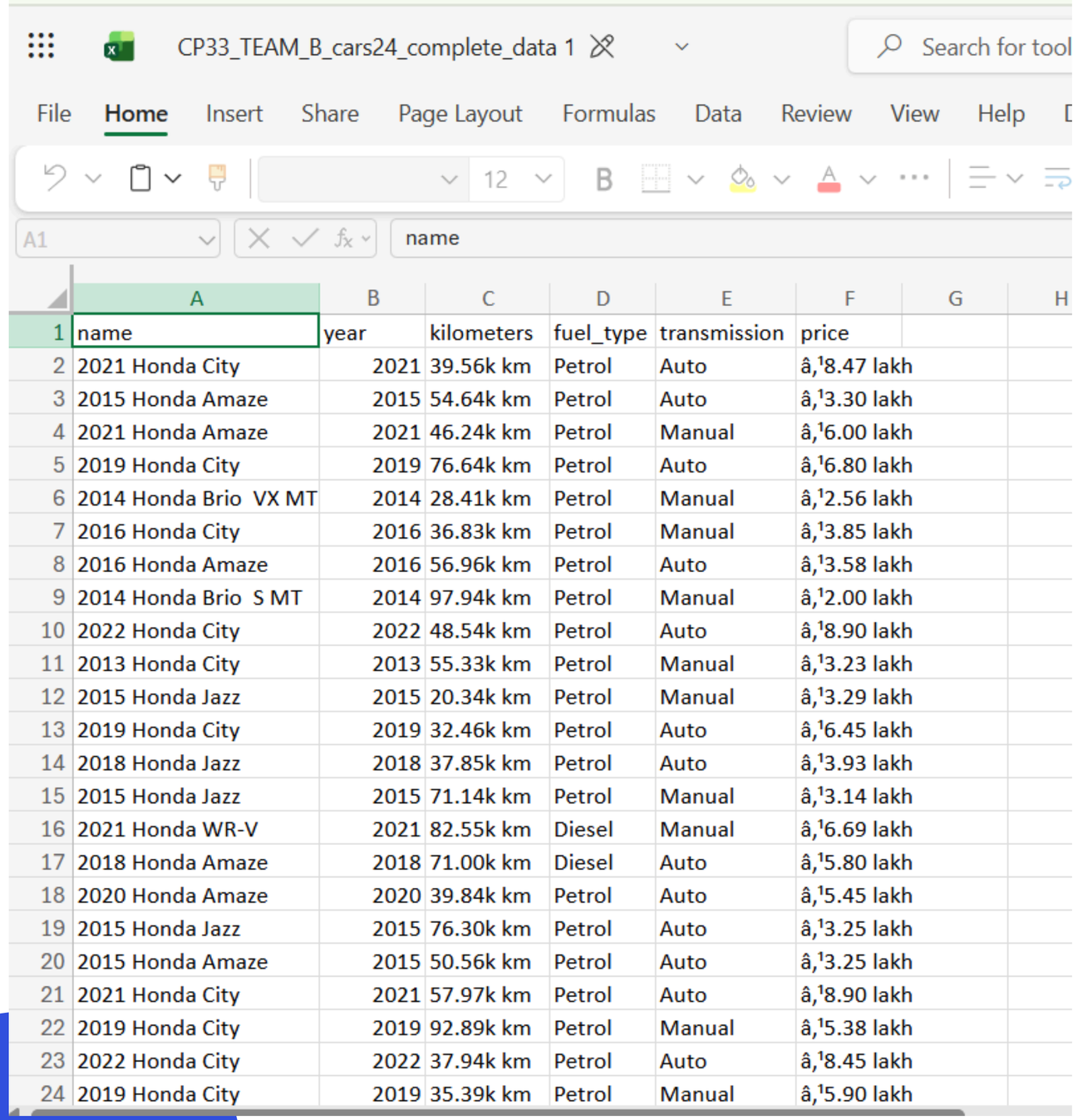
- Output file: CP33_TEAM_B_cars24_completedata.csv

- Contains all Honda car details scraped from Cars24 (Mumbai).



	A	B	C	D	E	F
1	name	year	kilometers	fuel_type	transmission	price
2	2021 Honda City	2021	39.56k km	Petrol	Auto	â‚¹8.47 lakh
3	2015 Honda Amaze	2015	54.64k km	Petrol	Auto	â‚¹3.30 lakh
4	2021 Honda Amaze	2021	46.24k km	Petrol	Manual	â‚¹6.00 lakh
5	2019 Honda City	2019	76.64k km	Petrol	Auto	â‚¹6.80 lakh
6	2014 Honda Brio VX MT	2014	28.41k km	Petrol	Manual	â‚¹2.56 lakh
7	2016 Honda City	2016	36.83k km	Petrol	Manual	â‚¹3.85 lakh
8	2016 Honda Amaze	2016	56.96k km	Petrol	Auto	â‚¹3.58 lakh
9	2014 Honda Brio S MT	2014	97.94k km	Petrol	Manual	â‚¹2.00 lakh
10	2022 Honda City	2022	48.54k km	Petrol	Auto	â‚¹8.90 lakh
11	2013 Honda City	2013	55.33k km	Petrol	Manual	â‚¹3.23 lakh
12	2015 Honda Jazz	2015	20.34k km	Petrol	Manual	â‚¹3.29 lakh
13	2019 Honda City	2019	32.46k km	Petrol	Auto	â‚¹6.45 lakh
14	2018 Honda Jazz	2018	37.85k km	Petrol	Auto	â‚¹3.93 lakh
15	2015 Honda Jazz	2015	71.14k km	Petrol	Manual	â‚¹3.14 lakh
16	2021 Honda WR-V	2021	82.55k km	Diesel	Manual	â‚¹6.69 lakh
17	2018 Honda Amaze	2018	71.00k km	Diesel	Auto	â‚¹5.80 lakh
18	2020 Honda Amaze	2020	39.84k km	Petrol	Auto	â‚¹5.45 lakh
19	2015 Honda Jazz	2015	76.30k km	Petrol	Auto	â‚¹3.25 lakh
20	2015 Honda Amaze	2015	50.56k km	Petrol	Auto	â‚¹3.25 lakh
21	2021 Honda City	2021	57.97k km	Petrol	Auto	â‚¹8.90 lakh
22	2019 Honda City	2019	92.89k km	Petrol	Manual	â‚¹5.38 lakh
23	2022 Honda City	2022	37.94k km	Petrol	Auto	â‚¹8.45 lakh
24	2019 Honda City	2019	35.39k km	Petrol	Manual	â‚¹5.90 lakh

Raw Data:



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A1 name

	A	B	C	D	E	F	G	H
1	name	year	kilometers	fuel_type	transmission	price		
2	2021 Honda City	2021	39.56k km	Petrol	Auto	â‚¹8.47 lakh		
3	2015 Honda Amaze	2015	54.64k km	Petrol	Auto	â‚¹3.30 lakh		
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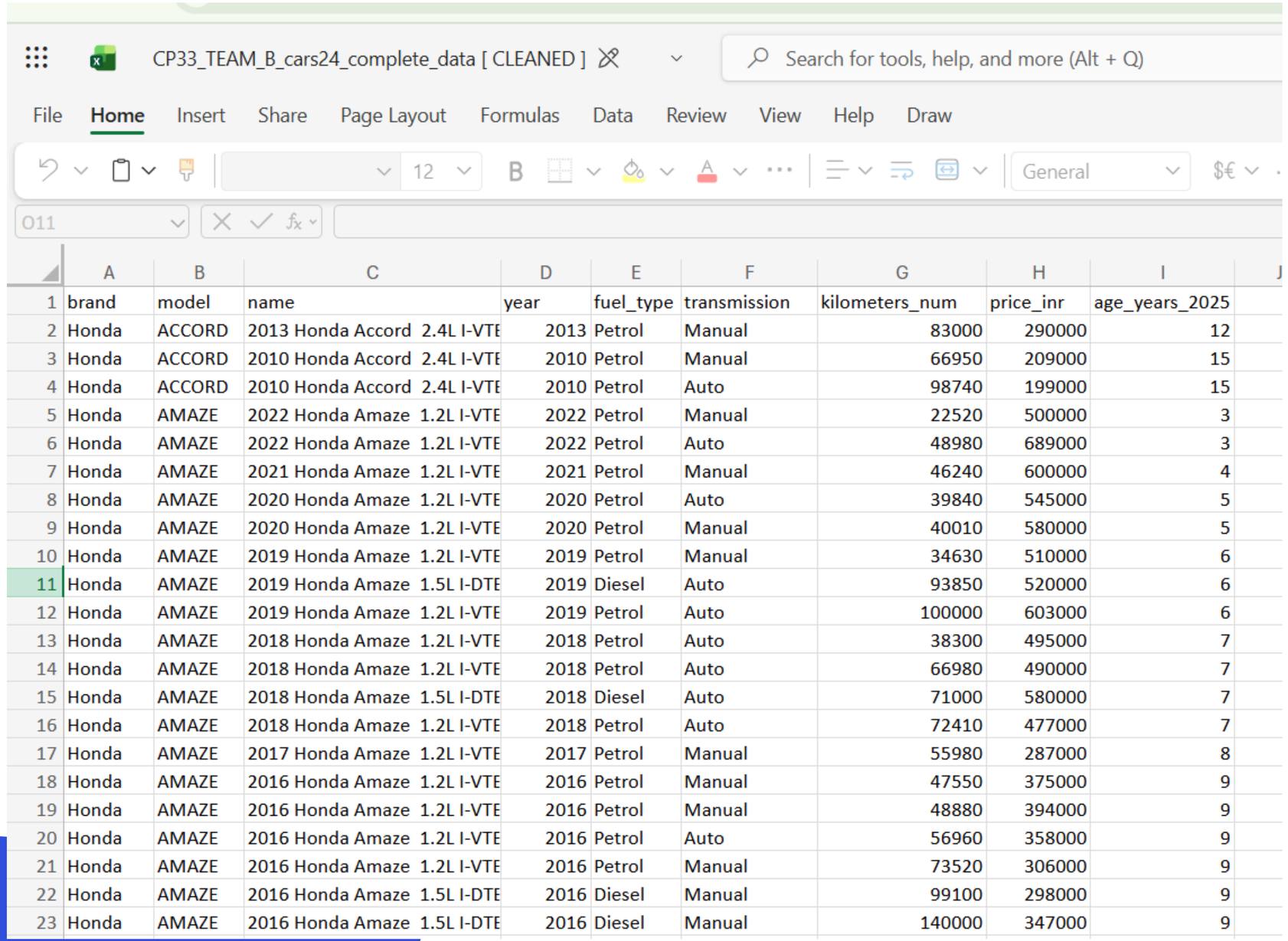
19	2015 Honda Jazz	2015	76.30k km	Petrol	Auto	â‚¹3.25 lakh		
20	2015 Honda Amaze	2015	50.56k km	Petrol	Auto	â‚¹3.25 lakh		
21	2021 Honda City	2021	57.97k km	Petrol	Auto	â‚¹8.90 lakh		
22	2019 Honda City	2019	92.89k km	Petrol	Manual	â‚¹5.38 lakh		
23	2022 Honda City	2022	37.94k km	Petrol	Auto	â‚¹8.45 lakh		
24	2019 Honda City	2019	35.39k km	Petrol	Manual	â‚¹5.90 lakh		

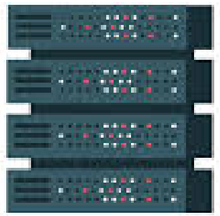
Final(cleaned) Data:



	A	B	C	D	E	F	G	H	I
1	brand	model	name	year	fuel_type	transmission	kilometers_num	price_inr	age_years_2025
2	Honda	ACCORD	2013 Honda Accord 2.4L I-VTE	2013	Petrol	Manual	83000	290000	12
3	Honda	ACCORD	2010 Honda Accord 2.4L I-VTE	2010	Petrol	Manual	66950	209000	15
4	Honda	ACCORD	2010 Honda Accord 2.4L I-VTE	2010	Petrol	Auto	98740	199000	15
5	Honda	AMAZE	2022 Honda Amaze 1.2L I-VTE	2022	Petrol	Manual	22520	500000	3
6	Honda	AMAZE	2022 Honda Amaze 1.2L I-VTE	2022	Petrol	Auto	48980	689000	3
7	Honda	AMAZE	2021 Honda Amaze 1.2L I-VTE	2021	Petrol	Manual	46240	600000	4
8	Honda	AMAZE	2020 Honda Amaze 1.2L I-VTE	2020	Petrol	Auto	39840	545000	5
9	Honda	AMAZE	2020 Honda Amaze 1.2L I-VTE	2020	Petrol	Manual	40010	580000	5
10	Honda	AMAZE	2019 Honda Amaze 1.2L I-VTE	2019	Petrol	Manual	34630	510000	6
11	Honda	AMAZE	2019 Honda Amaze 1.5L I-DTE	2019	Diesel	Auto	93850	520000	6
12	Honda	AMAZE	2019 Honda Amaze 1.2L I-VTE	2019	Petrol	Auto	100000	603000	6
13	Honda	AMAZE	2018 Honda Amaze 1.2L I-VTE	2018	Petrol	Auto	38300	495000	7
14	Honda	AMAZE	2018 Honda Amaze 1.2L I-VTE	2018	Petrol	Auto	66980	490000	7
15	Honda	AMAZE	2018 Honda Amaze 1.5L I-DTE	2018	Diesel	Auto	71000	580000	7
16	Honda	AMAZE	2018 Honda Amaze 1.2L I-VTE	2018	Petrol	Auto	72410	477000	7
17	Honda	AMAZE	2017 Honda Amaze 1.2L I-VTE	2017	Petrol	Manual	55980	287000	8
18	Honda	AMAZE	2016 Honda Amaze 1.2L I-VTE	2016	Petrol	Manual	47550	375000	9
19	Honda	AMAZE	2016 Honda Amaze 1.2L I-VTE	2016	Petrol	Manual	48880	394000	9
20	Honda	AMAZE	2016 Honda Amaze 1.2L I-VTE	2016	Petrol	Auto	56960	358000	9
21	Honda	AMAZE	2016 Honda Amaze 1.2L I-VTE	2016	Petrol	Manual	73520	306000	9
22	Honda	AMAZE	2016 Honda Amaze 1.5L I-DTE	2016	Diesel	Manual	99100	298000	9
23	Honda	AMAZE	2016 Honda Amaze 1.5L I-DTE	2016	Diesel	Manual	140000	347000	9

Challenges & Solutions

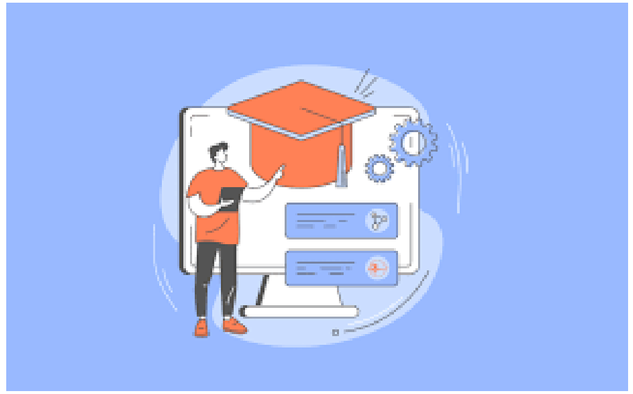
Challenge	Solution
Dynamic content loading	Used Selenium scrolling automation
Inconsistent price formats	Custom extraction logic for ₹L/₹Lakh
Missing or null data	Text extraction and pattern matching
Slow page rendering	Added wait times between scrolls



Results & Learnings

Results:

- Successfully scraped Honda car details from Cars24.
- Generated structured dataset in CSV format.

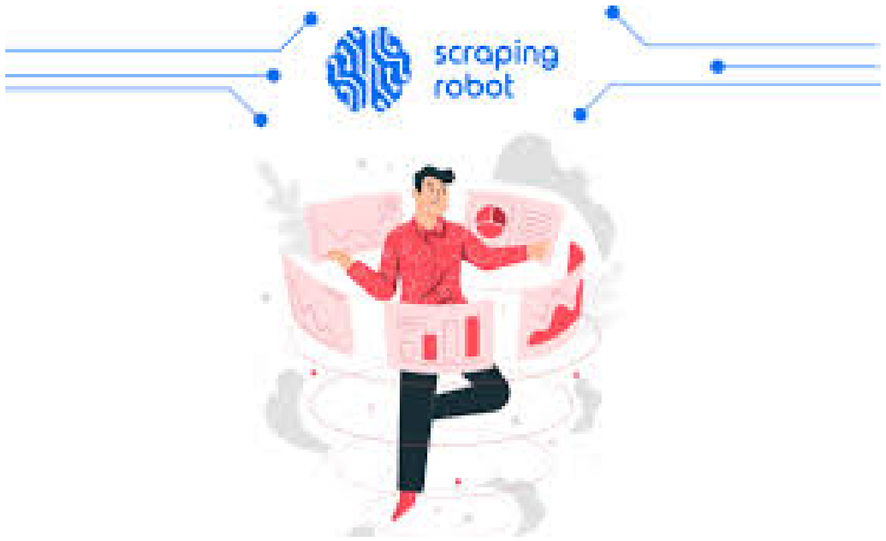


Learnings:

- Dynamic website scraping using Selenium.
- Handling missing and inconsistent data.
- Importance of automation and ethical scraping practices.

Future Scope

- Extend to multiple brands & cities.
- Add data visualization (price trends, fuel usage).
- Build an AI-based recommendation system for buyers.



Thank You