



# SECOND-HAND CAR PRICE ESTIMATION APPLICATION USER MANUAL

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## Introduction

Welcome to the Second Hand Car Price Estimation Application! This application is designed to empower users with the ability to estimate the prices of used cars effortlessly. In the initial phase of the project, we utilize Python Selenium for web scraping, allowing us to gather valuable data from a specified website. The collected data is then stored in CSV format for your convenience.

**(REMEMBER TO MAKE FULL SCREEN WHEN DOING EACH OPERATION.)**

**Project Github Link: <https://github.com/vigitabdulla/Data-Scraper>**

## Key Features:

### 1. Web Scraping with Python Selenium

The application employs Python Selenium to scrape relevant data from a designated website, ensuring up-to-date and accurate information on used car listings.

### 2. Data Storage in CSV Format

All scraped data is intelligently organized and stored in CSV format, offering a user-friendly and easily accessible structure. This format simplifies data handling and analysis for users.

### 3. User-Friendly Interface

Interact seamlessly with the application through a user-friendly interface. Effortlessly search and filter through the collected data in CSV files to find the information you need.

## How to Use this Manual:

This user manual is designed to guide you through every aspect of the Second Hand Car Price Estimation Application. Whether you're a first-time user or an experienced data enthusiast, the manual covers essential steps, tips, and features to ensure a smooth experience.

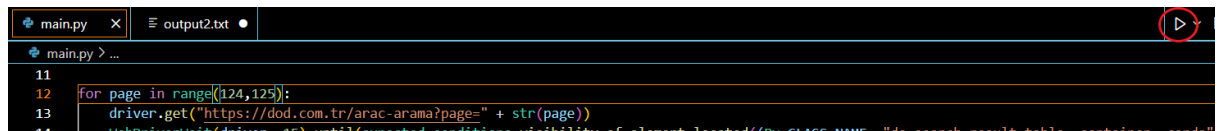
## System Deployment/Installation

1. Ensure you have Python installed on your system.
2. Download the provided Python script (e.g., "second\_hand\_car\_app.py") and the input data file ("data.csv") from github link provided above.
3. Open a terminal or command prompt.
4. Navigate to the directory where you downloaded the script and data.
5. Run the following command to install the required dependencies:

```
pip install selenium
```

```
pip install tk
```

6. Run the Python script using the execute button on your compiler(For vscode its on the top-right corner.):



## Technical Specifications:

- The application is developed using Python with the Tkinter library for the graphical user interface.
- The data is read from a CSV file ("data.csv").
- Filtering and searching functionalities are provided based on various criteria such as brand, model, year, and price range.
- The user interface includes entry fields, dropdown menus, buttons, and a dynamic data display using the Treeview widget.
- The application is compatible with Windows, macOS, and Linux operating systems.

## Main Features:

### Search Functionality:

- Enter a brand or model name in the search bar.
- Click the "Search" button to filter and display matching cars.

### Filter Functionality:

- Filter by brand, model, year, and price range.
- Specify minimum and maximum prices using the respective entry fields.
- Click the "Filter" button to display cars that match the specified criteria.

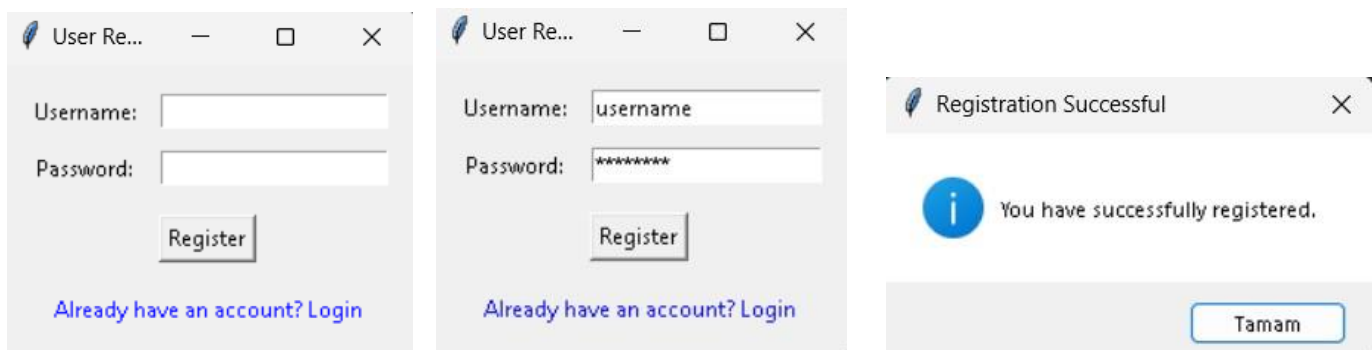
## Dynamic Data Display:

- The filtered data is displayed in a dynamic table using the Treeview widget.
- Columns include various car attributes such as model, brand, price, etc.
- Clicking on column headers sorts the data accordingly.

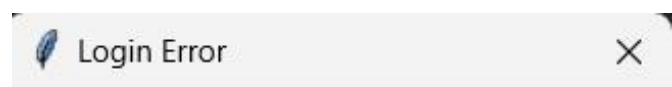
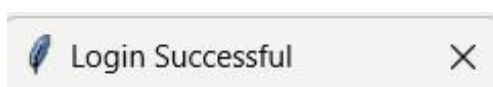
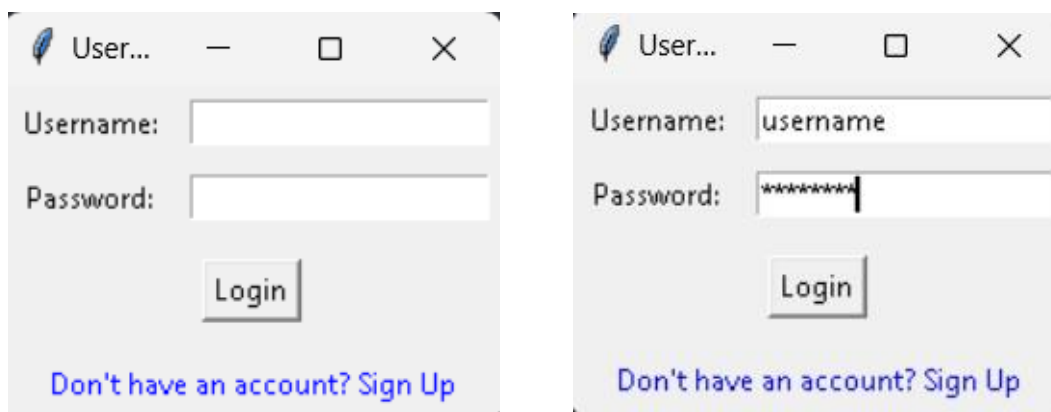
## User Interface Introduction

1-) This is the first screen you will see after running it. You can register by entering your username and password from this section.

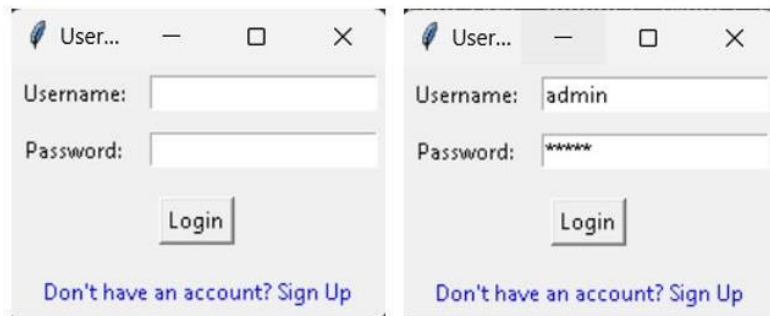
If you have already registered or if you have just registered, you can go to the login section by clicking on the blue written section at the bottom.



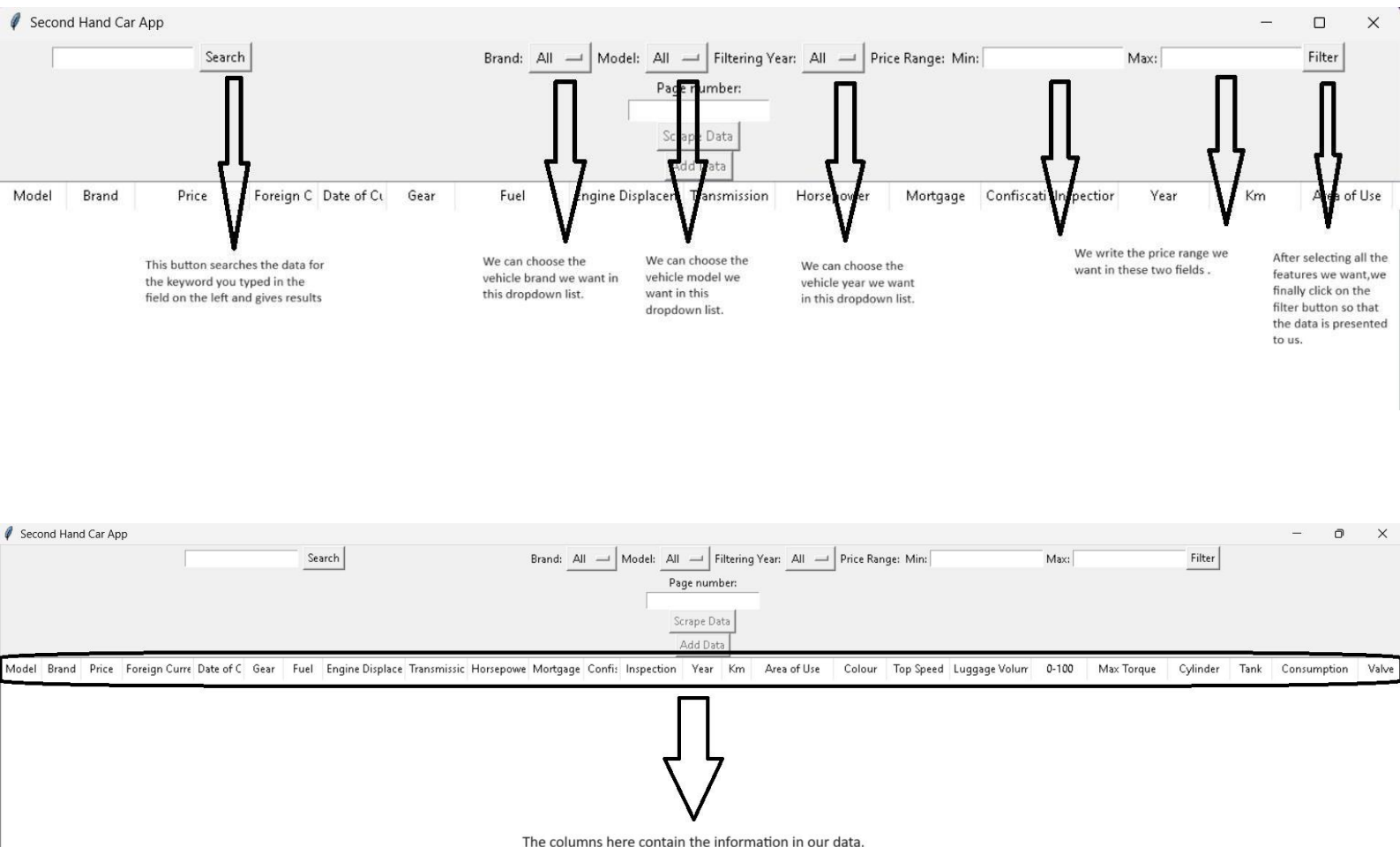
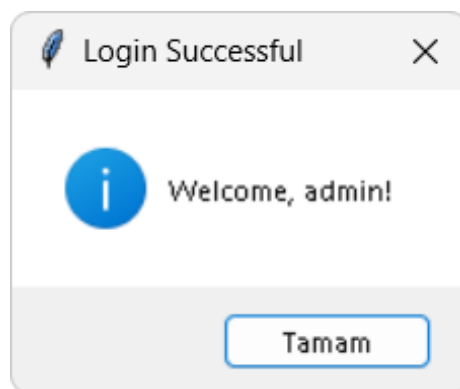
2-) From this screen, you can go to the main screen by entering your username and password. If you enter an incorrect username or password, the screen will display an error.



3-) You can log in as admin with a username with admin in it.



Two screenshots of the login form. The first shows empty fields for Username and Password. The second shows the fields filled with 'admin' and a masked password. Both have a 'Login' button and a 'Sign Up' link.



Second Hand Car App

Search

Brand: All Model: All Filtering Year: All Price Range: Min: Max: Filter

Page Number: Scrape Data Add Data

Model	Brand	Price	Foreign C	Date of C	Gear	Fuel	Engine Displace	Transmission	Horsepower	Mortgage	Confiscation	Inspector	Year	Km	Area of Use
-------	-------	-------	-----------	-----------	------	------	-----------------	--------------	------------	----------	--------------	-----------	------	----	-------------

This button searches the data for the keyword you typed in the field on the left and gives results

We can choose the vehicle brand we want in this dropdown list.

We can choose the vehicle model we want in this dropdown list.

We can choose the vehicle year we want in this dropdown list.

We write the price range we want in these two fields .

After selecting all the features we want, we finally click on the filter button so that the data is presented to us.

Second Hand Car App

Search

Brand: All Model: All Filtering Year: All Price Range: Min: Max: Filter

Page number: Scrape Data Add Data

Model	Brand	Price	Foreign Curre	Date of C	Gear	Fuel	Engine Displace	Transmissic	Horsepowe	Mortgage	Confis	Inspection	Year	Km	Area of Use	Colour	Top Speed	Luggage Volum	0-100	Max Torque	Cylinder	Tank	Consumption	Valve
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The columns here contain the information in our data.



In the brand dropdown list, the brands of the vehicles in our data are shown, and in the model dropdown list, only the models of that brand appear. You can select the vehicles of the brand and model you want by selecting from there and pressing the filter button.

Second Hand Car App

Search

Brand: Volvo Model: XC90 Filtering Year: All Price Range: Min: Max: Filter

Page number:

Scrape Data

Add Data

Model	Brand	Price	Foreign	Date of	Gear	Fuel	Engine Displace	Transmissi	Horsepowe	Mortgage	Confis	Inspection	Year	Km	Area of Use	Colour	Top Speed	Luggage Volunr	0-100	Max Torque	Cylinder	Tank	Consumption	Valve
XC90	Volvo	4.999.990	30.00	11.01.20	Tiptr	Dizel	2 Lt	4x4	235 Hp	Yok	Yok	8.09.2025	2022	34.3t	Arazi aracı	Mavi	180 Km/h	709 Lt	Yok*	480	4	71	0 (\$)/ 0 (\$D)	Yok*
XC90	Volvo	4.649.750	30.00	11.01.20	Tiptr	Dizel	2 Lt	4x4	235 Hp	Yok	Yok	10.02.2025	2022	26.0	Arazi aracı	Siyah	180 Km/h	314 Lt	Yok*	480	4	71	0 (\$)/ 0 (\$D)	16
XC90	Volvo	4.599.990	30.00	11.01.20	Tiptr	Dizel	2 Lt	4x4	235 Hp	Yok	Yok	21.04.2025	2022	27.2t	Arazi aracı	Mavi	180 Km/h	314 Lt	Yok*	480	4	71	0 (\$)/ 0 (\$D)	16
XC90	Volvo	4.499.990	30.00	11.01.20	Tiptr	Dizel	2 Lt	4x4	235 Hp	Yok	Yok	10.02.2025	2022	36.7t	Arazi aracı	Siyah	180 Km/h	314 Lt	Yok*	480	4	71	0 (\$)/ 0 (\$D)	16
XC90	Volvo	4.099.990	30.00	11.01.20	Tiptr	Dizel	2 Lt	4x4	235 Hp	Yok	Yok	28.08.2025	2021	58.2t	Arazi aracı	Beyaz	180 Km/h	314 Lt	Yok*	480	4	71	0 (\$)/ 0 (\$D)	16

If you want to filter by year after selecting the brand or model you want, you can view the data you want by selecting the year from the year dropdown list.

Second Hand Car App

Search

Brand: Volvo Model: All Filtering Year: 2020 Price Range: Min: Max: Filter

Page number:

Scrape Data

Add Data

Model	Brand	Price	Foreign	Date of	Gear	Fuel	Engine Displace	Transmissi	Horsepower	Mortgage	Confis	Inspection	Year	Km	Area of Use	Colour	Top Speed	Lugga	0-100	Max Torque	Cylinder	Tank	Consumption	Valve
S90	Volvo	2.399.000	30.00	11.01.20	Tiptr	Dizel	2 Lt	4x4	235 Hp	Yok	Yok	7.07.2025	2020	154.	Sedan	Siyah	240 Km/h	500 Lt	Yok*	480	4	60	6.3 (\$)/ 4.9 (\$D)	16

If you want to filter by price after selecting the brand or model you want, you can enter the minimum and maximum values you want in the field provided and access the data you want.

Second Hand Car App

Search

Brand: Volvo Model: XC90 Filtering Year: All Price Range: Min: 4600000 Max: Filter

Page number:

Scrape Data

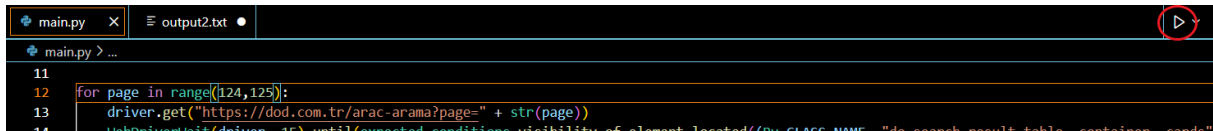
Add Data

Model	Brand	Price	Foreign	Date of	Gear	Fuel	Engine Displace	Transmissi	Horsepower	Mortgage	Confis	Inspection	Year	Km	Area of Use	Colour	Top Speed	Luggage Volunr	0-100	Max Torque	Cylinder	Tank	Consumption	Valve
XC90	Volvo	4.999.990	30.00	11.01.20	Tiptr	Dizel	2 Lt	4x4	235 Hp	Yok	Yok	8.09.2025	2022	34.3t	Arazi aracı	Mavi	180 Km/h	709 Lt	Yok*	480	4	71	0 (\$)/ 0 (\$D)	Yok*
XC90	Volvo	4.649.750	30.00	11.01.20	Tiptr	Dizel	2 Lt	4x4	235 Hp	Yok	Yok	10.02.2025	2022	26.0	Arazi aracı	Siyah	180 Km/h	314 Lt	Yok*	480	4	71	0 (\$)/ 0 (\$D)	16



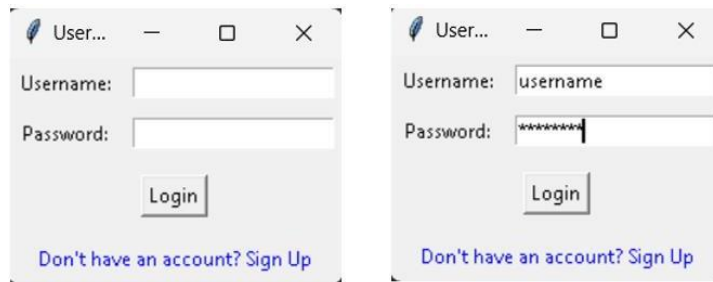
## Walkthrough - Scenario 1(User): Filtering by Brand, Model and Year:

- Launch the application.

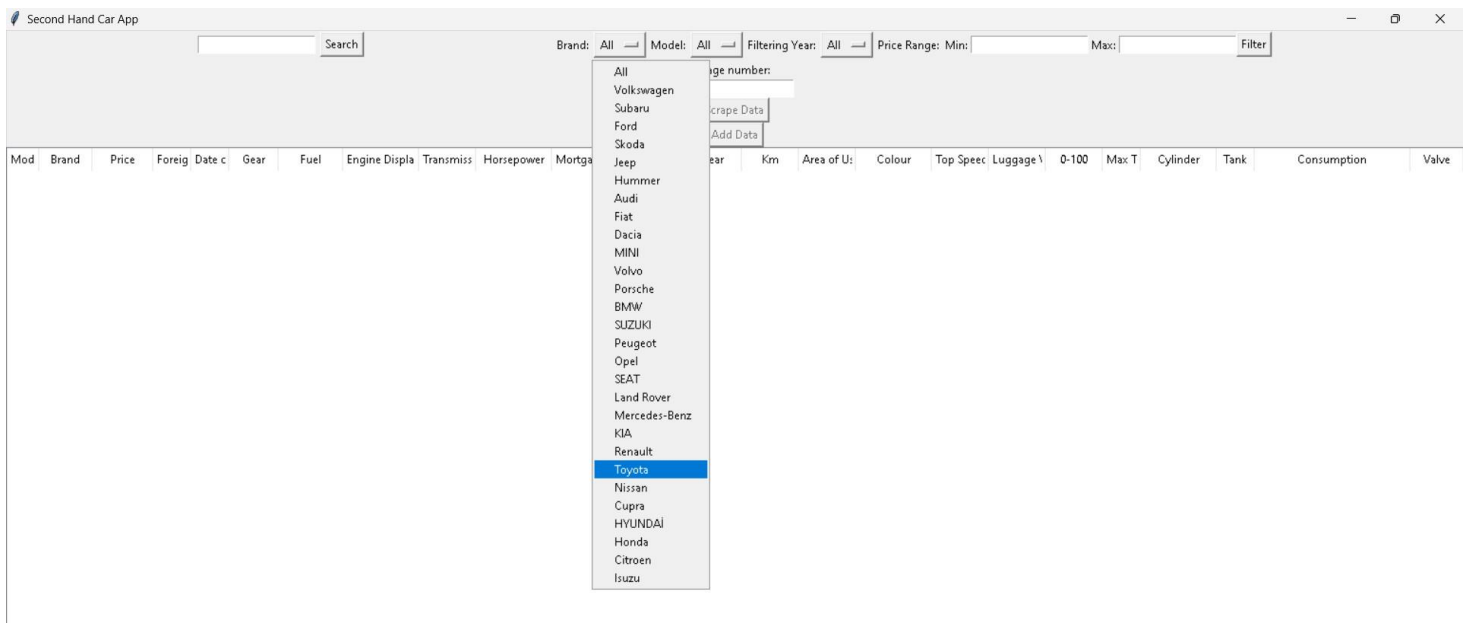


```
11 for page in range(124,125):
12     driver.get('https://dod.com.tr/arac-arama?page=' + str(page))
13     driver.get('https://dod.com.tr/arac-arama?page=' + str(page))
```

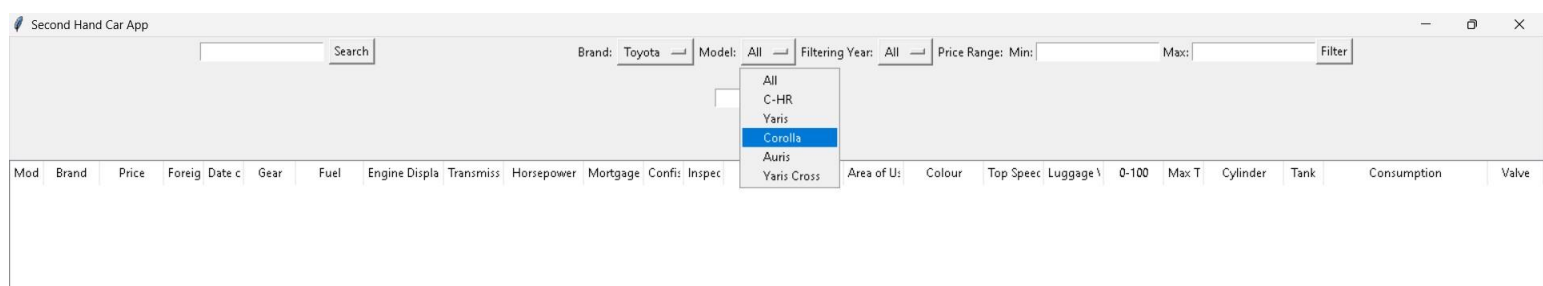
Enter your username and password as a user(assuming you have registered).



Choose a specific brand from the dropdown menu.



Select a specific model from the dropdown menu.



Select a specific year from the year dropdown.

Second Hand Car App

Search

Brand: Toyota Model: Corolla Filtering Year: All Price Range: Min: Max: Filter

Page number: 1

Scrape Data Add Data

Mod	Brand	Price	Foreig	Date c	Gear	Fuel	Engine Displa	Transmiss	Horsepower	Mortgage	Confi:	Inspec	Year	Km	Area of	Top Speed	Luggage \	0-100	Max T	Cylinder	Tank	Consumption	Valve
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- Click the "Filter" button.
- View the dynamically updated table with cars that match the selected brand, model and year.

Second Hand Car App

Search

Brand: Toyota Model: Corolla Filtering Year: 2021 Price Range: Min: Max: Filter

Page number: 1

Scrape Data Add Data

Mod	Brand	Price	Foreig	Date c	Gear	Fuel	Engine Displa	Transmiss	Horsepower	Mortgage	Confi:	Inspec	Year	Km	Area of U:	Colour	Top Speed	Luggage \	0-100	Max T	Cylinder	Tank	Consumption	Valve
Coro	Toyota	1.044.000%	30.00	11.01.:	Otomati	Benzin	1.8 Lt	Önden Çe	122 Hp	Yok	Yok	1.04.2i	2021	59.584 km	Sedan	Kar Beyazı	180 Km/h	471 Lt	Yok*	Yok*	4	43	3.3 (\$)/ 3.6 (\$D)	16
Coro	Toyota	1.034.000%	30.00	11.01.:	Otomati	Benzin	1.8 Lt	Önden Çe	122 Hp	Yok	Yok	3.06.2i	2021	75.249 km	Sedan	Kar Beyazı	180 Km/h	471 Lt	Yok*	Yok*	4	43	3.3 (\$)/ 3.6 (\$D)	16
Coro	Toyota	1.025.000%	30.00	11.01.:	Otomati	Benzin	1.8 Lt	Önden Çe	122 Hp	Yok	Yok	5.06.2i	2021	68.614 km	Sedan	Elmas Gümüş	180 Km/h	471 Lt	Yok*	Yok*	4	43	3.3 (\$)/ 3.6 (\$D)	16
Coro	Toyota	957.000%	30.00	11.01.:	Multitro	Benzin	1.5 Lt	Önden Çe	123 Hp	Yok	Yok	6.05.2i	2021	42.000 km	Sedan	Sarı	190 Km/h	471 Lt	Yok*	153	3	50	6.7 (\$)/ 4.6 (\$D)	12
Coro	Toyota	919.000%	30.00	11.01.:	Multitro	Benzin	1.5 Lt	Önden Çe	123 Hp	Yok	Yok	30.12.:	2021	48.308 km	Sedan	Beyaz	190 Km/h	471 Lt	Yok*	153	3	50	6.7 (\$)/ 4.6 (\$D)	12
Coro	Toyota	1.058.000%	30.00	11.01.:	Otomati	Benzin	1.8 Lt	Önden Çe	122 Hp	Yok	Yok	4.06.2i	2021	64.839 km	Sedan	Kar Beyazı	180 Km/h	471 Lt	Yok*	Yok*	4	43	3.3 (\$)/ 3.6 (\$D)	16
Coro	Toyota	1.053.000%	30.00	11.01.:	Otomati	Benzin	1.8 Lt	Önden Çe	122 Hp	Yok	Yok	10.07.:	2021	83.826 km	Sedan	Kar Beyazı	180 Km/h	471 Lt	Yok*	Yok*	4	43	3.3 (\$)/ 3.6 (\$D)	16

## Walkthrough - Scenario 2(Admin):Scrap Data and Add Data:

Launch the Application.

```
main.py x output2.txt
main.py > ...
11
12 for page in range(124,125):
13     driver.get("https://dod.com.tr/arac-arama?page=" + str(page))
14     WebDriverWait(driver, 45).until(ExpectedConditions.visibilityOf(ElementsLocatedBy(By.CSS_SELECTOR, "#search-result-table-container tbody")))
15     # Extract data from the table
16     # ...
```

Enter your username and password as admin(assuming you have registered).

User...

Username:

Password:

Login

Don't have an account? Sign Up

User...

Username: admin

Password: admin1234

Login

Don't have an account? Sign Up

Enter a certain number of pages in the specified place and press the Scrape data button and the data on that page will be extracted.

Second Hand Car App

Search

Brand: All Model: All Filtering Year: All Price Range: Min: Max: Filter

Page number: 9

Scrape Data

Add Data

Model	Brand	Price	Foreign Curr	Date of	Gear	Fuel	Engine Displac	Transmissi	Horsepower	Mortgage	Confis	Inspec	Year	Km	Area of Use	Colour	Top Speed	Luggage V	0-100	Max Tr	Cylinder	Tank	Consumption	Valve
-------	-------	-------	--------------	---------	------	------	----------------	------------	------------	----------	--------	--------	------	----	-------------	--------	-----------	-----------	-------	--------	----------	------	-------------	-------

Click the add data button, fill in the required boxes in the window that opens and click the save data button and the data will be saved..

Second Hand Car App

Add Data

Model: Brand: Price: Foreign Currency: Date of Currency: Gear: Fuel: Engine Displacement: Transmission: Horsepower: Mortgage: Confiscation: Inspection: Year: Km: Area of Use: Colour: Top Speed: Luggage Volume: 0-100: Max Torque: Cylinder: Tank: Consumption: Valve: Save Data

Brand: All Model: All Filtering Year: All Price Range: Min: Max: Filter

Page number: Scrape Data Add Data

Fuel	Engine Displacement	Transmission	Horsepower	Mortgage	Confiscation	Inspection	Year	Km	Area of Use	Colour	Top Speed	Luggage Volume	0-100
------	---------------------	--------------	------------	----------	--------------	------------	------	----	-------------	--------	-----------	----------------	-------

Add Data

Model: Leon Brand: SEAT Price: 1.500.000 Foreign Currency: 30.00 Date of Currency: 11.01.2024 Gear: Otomatik Fuel: Benzin Engine Displacement: 1.4 Lt. Transmission: Önden Çıkışlı Horsepower: 150 Hp Mortgage: Yok Confiscation: yok Inspection: 6.11.2022 Year: 2017 Km: 76.425 Km Area of Use: Hatchback Colour: Beyaz Top Speed: 196 Km/h Luggage Volume: 380 Lt. 0-100: 4 Max Torque: 450 Cylinder: 4 Tank: 71 Consumption: 0x30 / 0x30 Valve: 16 Save Data

Add Data

Data added successfully

Tamam