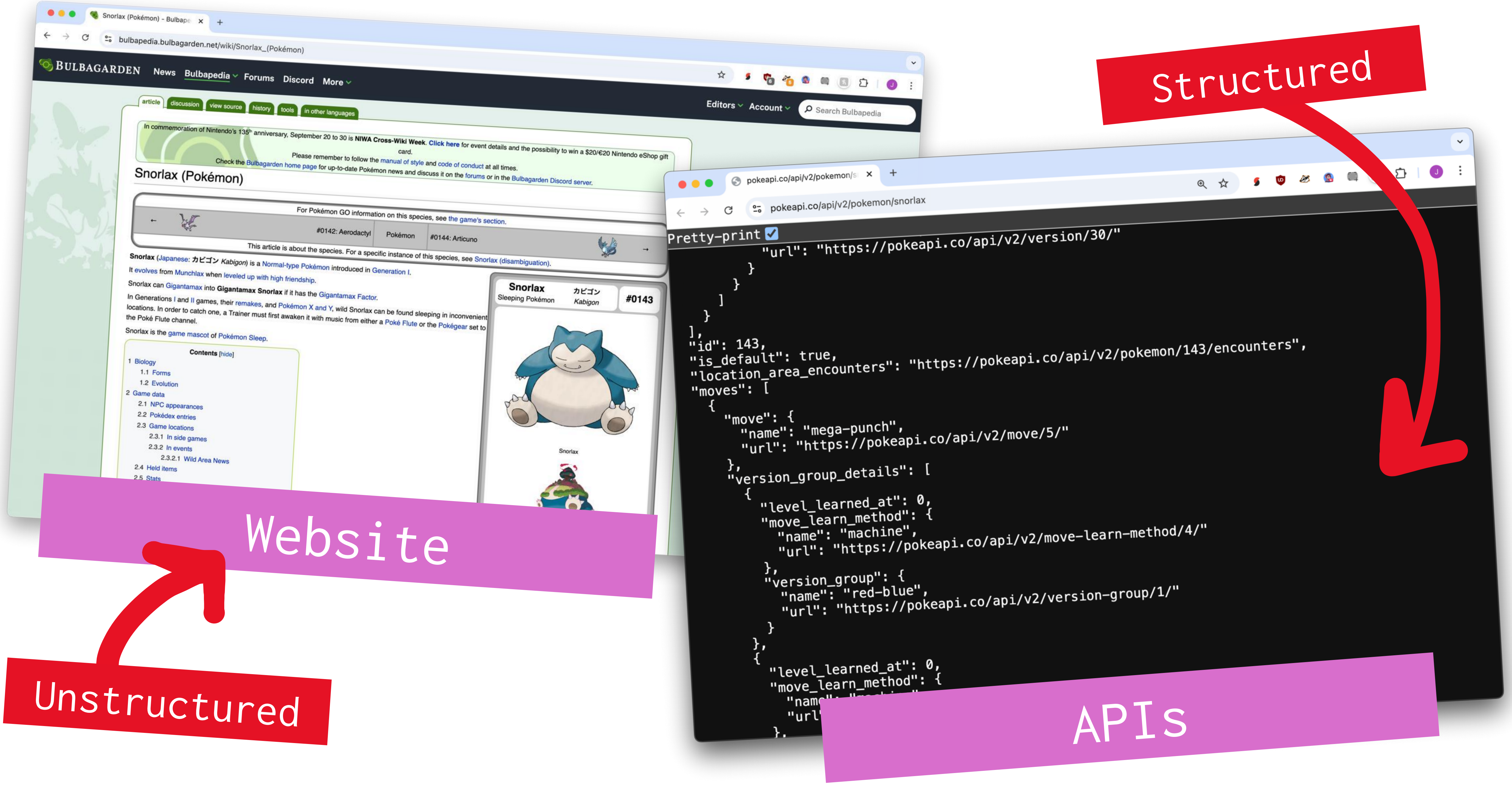
Visit https://bit.ly/ds-dojo-2024 for material

Unstructured data

Scraping and data cleaning


Snorlax (Pokémon) - Bulbape
bulbapedia.bulbagarden.net/wiki/Snorlax_(Pokémon)
BULBAGARDEN
News
Bulbapedia
Forums
Discord
More
Editors
Account
Search Bulbapedia
article
discussion
view source
history
tools
in other languages

In commemoration of Nintendo's 135th anniversary, September 20 to 30 is **NIWA Cross-Wiki Week**. Click here for event details and the possibility to win a $20/€20 Nintendo eShop gift card.
Please remember to follow the manual of style and code of conduct at all times.
Check the Bulbagarden home page for up-to-date Pokémon news and discuss it on the forums or in the Bulbagarden Discord server.

Snorlax (Pokémon)

For Pokémon GO information on this species, see the game's section.

#0142: Aerodactyl	Pokémon	#0144: Articuno

This article is about the species. For a specific instance of this species, see Snorlax (disambiguation).

Snorlax (Japanese: カビゴン *Kabigon*) is a Normal-type Pokémon introduced in Generation I.

It evolves from Munchlax when leveled up with high friendship.

Snorlax can Gigantamax into **Gigantamax Snorlax** if it has the Gigantamax Factor.

In Generations I and II games, their remakes, and Pokémon X and Y, wild Snorlax can be found sleeping in inconvenient locations. In order to catch one, a Trainer must first awaken it with music from either a Poké Flute or the Pokégear set to the Poké Flute channel.

Snorlax is the game mascot of Pokémon Sleep.

Contents [hide]

1 Biology
  1.1 Forms
  1.2 Evolution
2 Game data
  2.1 NPC appearances
  2.2 Pokédex entries
  2.3 Game locations
    2.3.1 In side games
    2.3.2 In events
      2.3.2.1 Wild Area News
  2.4 Held items
  2.5 Stats

Snorlax カビゴン
Sleeping Pokémon *Kabigon*
#0143

Snorlax

Website

Unstructured

pokeapi.co/api/v2/pokemon/s
pokeapi.co/api/v2/pokemon/snorlax
Pretty-print ☑

```
        "url": "https://pokeapi.co/api/v2/version/30/"
      }
    }
  ]
}
],
"id": 143,
"is_default": true,
"location_area_encounters": "https://pokeapi.co/api/v2/pokemon/143/encounters",
"moves": [
  {
    "move": {
      "name": "mega-punch",
      "url": "https://pokeapi.co/api/v2/move/5/"
    },
    "version_group_details": [
      {
        "level_learned_at": 0,
        "move_learn_method": {
          "name": "machine",
          "url": "https://pokeapi.co/api/v2/move-learn-method/4/"
        },
        "version_group": {
          "name": "red-blue",
          "url": "https://pokeapi.co/api/v2/version-group/1/"
        }
      },
      {
        "level_learned_at": 0,
        "move_learn_method": {
          "nam
          "url
      },
```

APIs

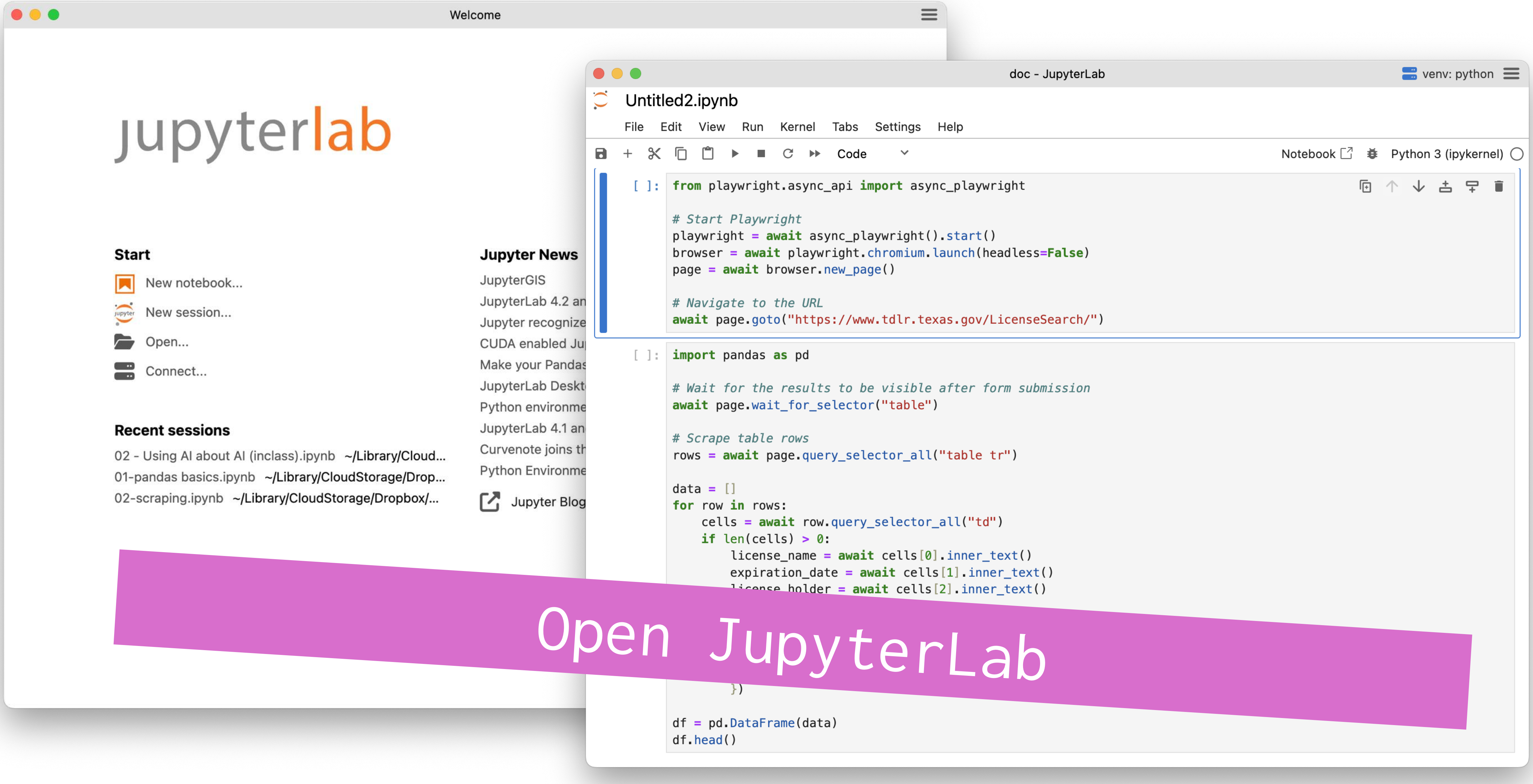
Structured

How to find data

- There is no secret way!
- Search and search and search
- Talk to other people
- Visit websites

Scraping!

stealing (??) data from
the internet


Welcome
jupyterlab
doc - JupyterLab
venv: python
Untitled2.ipynb
File Edit View Run Kernel Tabs Settings Help
Code
Notebook
Python 3 (ipykernel)

Start

- New notebook...
- New session...
- Open...
- Connect...

Recent sessions

02 - Using AI about AI (inclass).ipynb ~/Library/Cloud...
01-pandas basics.ipynb ~/Library/CloudStorage/Drop...
02-scraping.ipynb ~/Library/CloudStorage/Dropbox/...

Jupyter News

JupyterGIS
JupyterLab 4.2 an
Jupyter recognize
CUDA enabled Ju
Make your Pandas
JupyterLab Deskt
Python environme
JupyterLab 4.1 an
Curvenote joins th
Python Environme
Jupyter Blog

```
[ ]: from playwright.async_api import async_playwright

     # Start Playwright
     playwright = await async_playwright().start()
     browser = await playwright.chromium.launch(headless=False)
     page = await browser.new_page()

     # Navigate to the URL
     await page.goto("https://www.tdlr.texas.gov/LicenseSearch/")
```

```
[ ]: import pandas as pd

     # Wait for the results to be visible after form submission
     await page.wait_for_selector("table")

     # Scrape table rows
     rows = await page.query_selector_all("table tr")

     data = []
     for row in rows:
         cells = await row.query_selector_all("td")
         if len(cells) > 0:
             license_name = await cells[0].inner_text()
             expiration_date = await cells[1].inner_text()
             license_holder = await cells[2].inner_text()
             })

     df = pd.DataFrame(data)
     df.head()
```

Open JupyterLab

HTML

the language that all web sites are built with

```
<h1>This is a headline</h1>
<h2>This is a smaller headline</h2>
<h3>And an even smaller headline</h3>
```

This is a headline

This is a smaller headline

And an even smaller headline

```
<h1>This is a headline</h1>
<h2>This is a smaller headline</h2>
<h3>And an even smaller headline</h3>
<p>This is a paragraph</p>
<img src=“photo.jpg”>
<p>This is a paragraph with
<a href=“google.com”>a link</a></p>
<div>This is ANYTHING</div>
<div>Anything! Anything in the world</div>
```

This is a headline

This is a smaller headline

And an even smaller headline

This is a paragraph

This is a paragraph with a link

(imagine there's a photo)

This is ANYTHING
Anything! Anything in the world

```html
<h1>An incredible story</h1>
<p>By J. Soma</p>
<p>This is the start of the story.</p>
<p>It is an amazing story!</p>
<p>”It’s incredible,” said the source.</p>
<p>An editor agreed: “it’s true!”</p>
<p>Additional reporting by Mulberry the fat mean cat</p>
<p>Edit: An earlier version said “Jonathan” Soma</p>
```

An incredible story

By J. Soma

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It is an amazing story!

”It’s incredible,” said the source.

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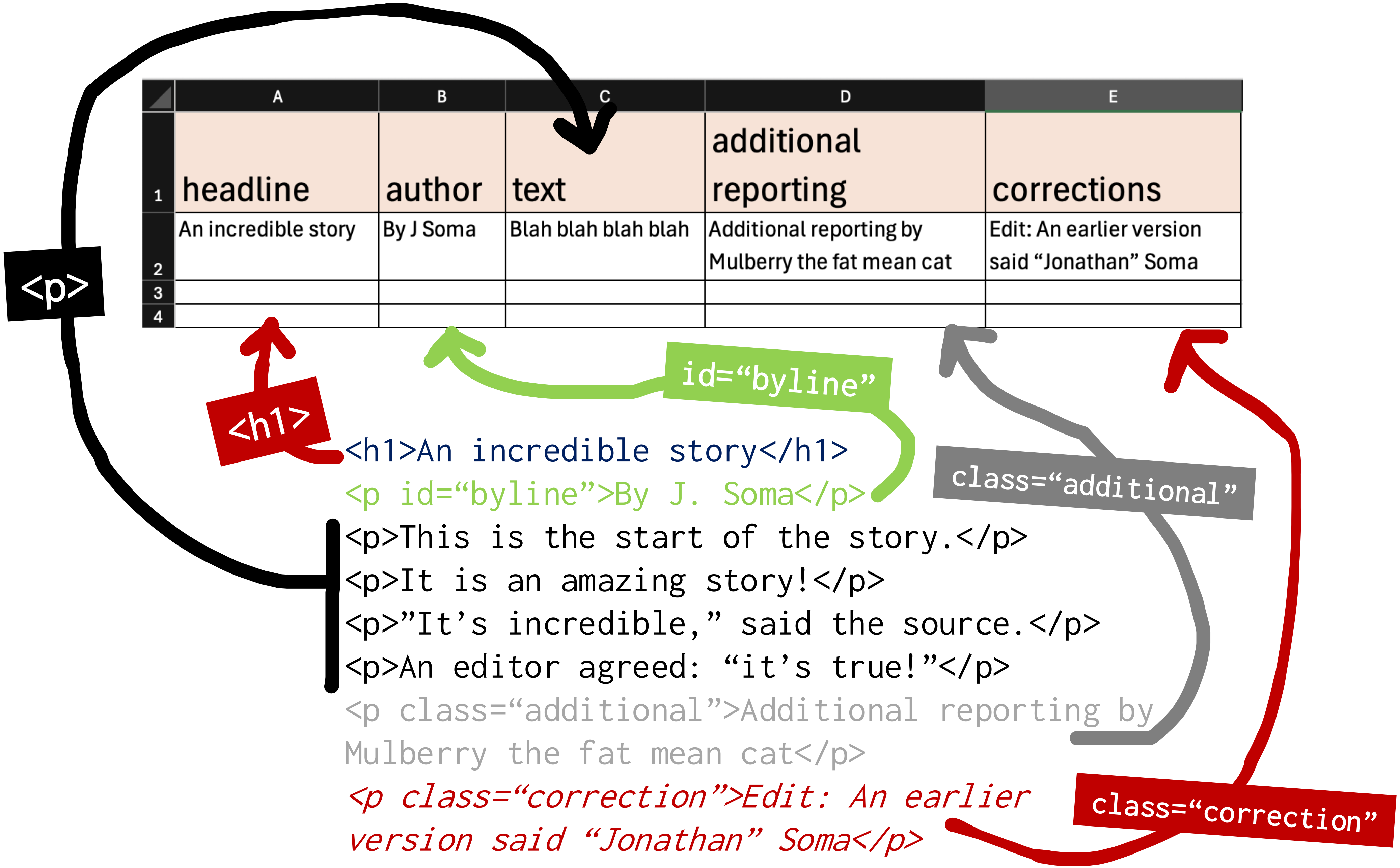

	A	B	C	D	E
1	headline	author	text	additional reporting	corrections
2	An incredible story	By J Soma	Blah blah blah blah	Additional reporting by Mulberry the fat mean cat	Edit: An earlier version said “Jonathan” Soma
3					
4					

```
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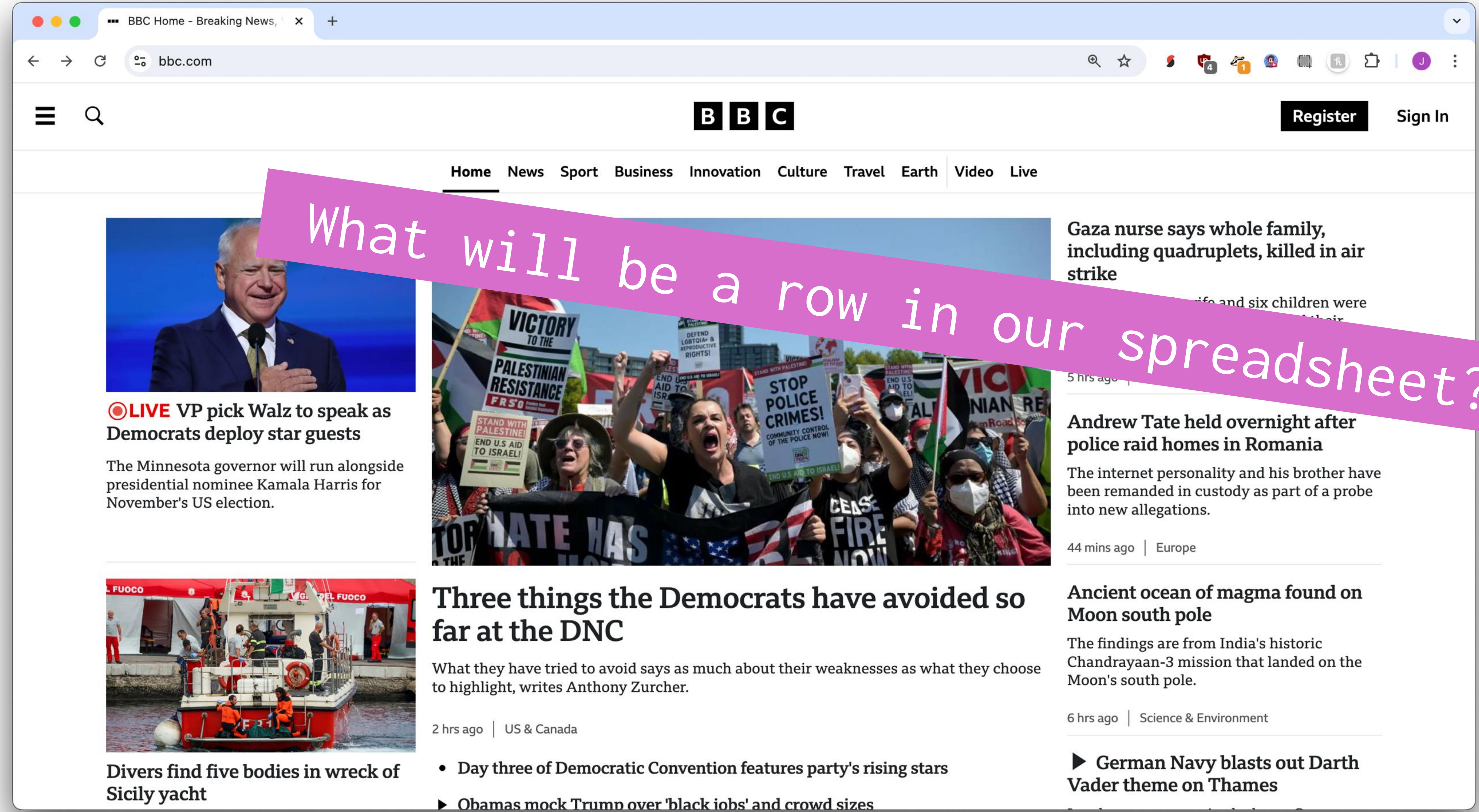
<p class=“additional”>Additional reporting by
Mulberry the fat mean cat</p>
<p class=“correction”>Edit: An earlier
version said “Jonathan” Soma</p>
```

Let’s see it on the internet!

What will be a row in our spreadsheet?


BBC Home - Breaking News,
bbc.com
BBC
Register
Sign In
Home
News
Sport
Business
Innovation
Culture
Travel
Earth
Video
Live

LIVE **VP pick Walz to speak as Democrats deploy star guests**

The Minnesota governor will run alongside presidential nominee Kamala Harris for November's US election.

Divers find five bodies in wreck of Sicily yacht

Three things the Democrats have avoided so far at the DNC

What they have tried to avoid says as much about their weaknesses as what they choose to highlight, writes Anthony Zurcher.

2 hrs ago | US & Canada

- Day three of Democratic Convention features party's rising stars
- Obamas mock Trump over 'black jobs' and crowd sizes

Gaza nurse says whole family, including quadruplets, killed in air strike

ife and six children were

5 hrs ago

Andrew Tate held overnight after police raid homes in Romania

The internet personality and his brother have been remanded in custody as part of a probe into new allegations.

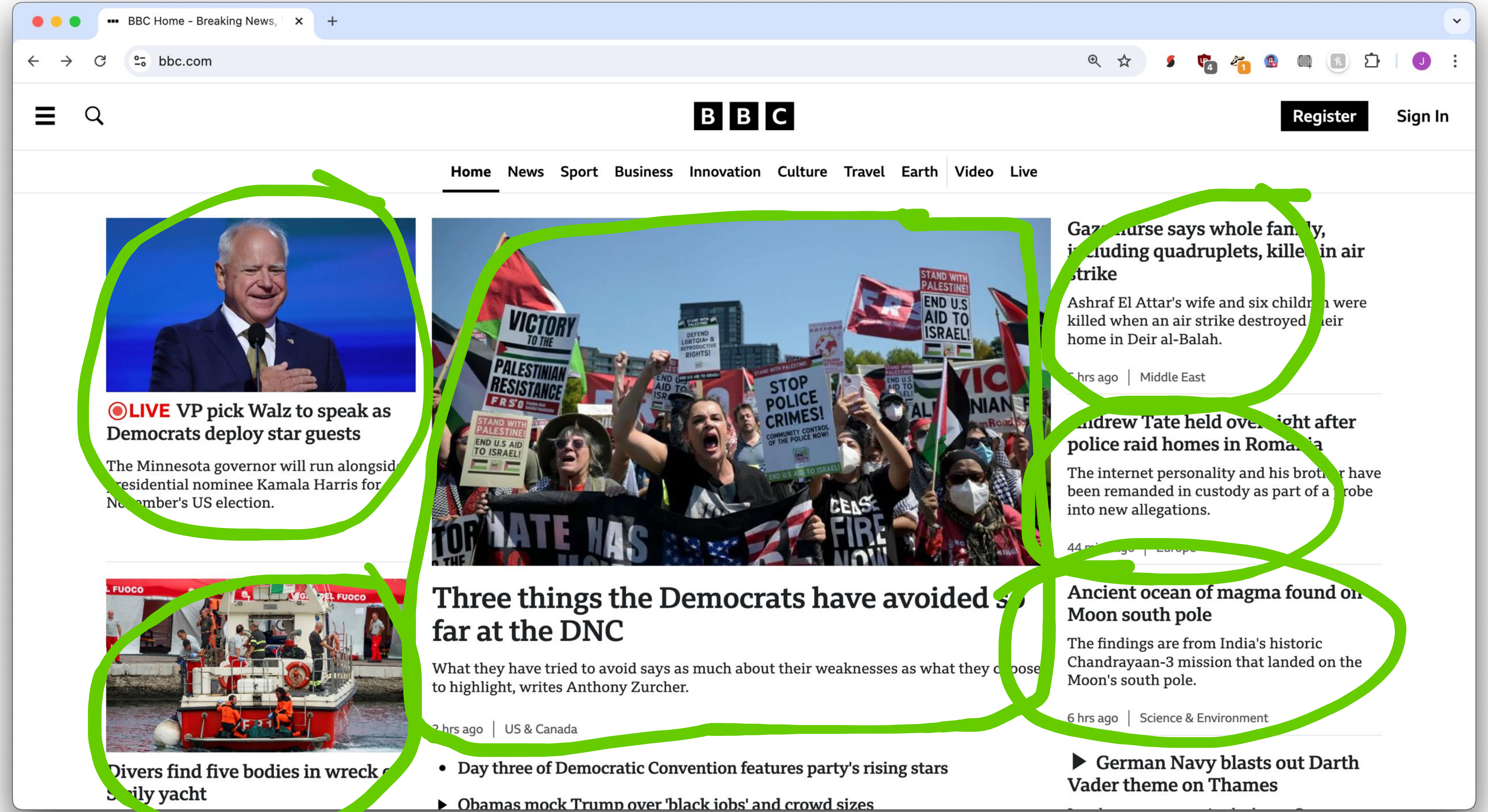
44 mins ago | Europe

Ancient ocean of magma found on Moon south pole

The findings are from India's historic Chandrayaan-3 mission that landed on the Moon's south pole.

6 hrs ago | Science & Environment

German Navy blasts out Darth Vader theme on Thames



LIVE VP pick Walz to speak as Democrats deploy star guests

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Gaza nurse says whole family, including quadruplets, killed in air strike

Ashraf El Attar's wife and six children were killed when an air strike destroyed their home in Deir al-Balah.

5 hrs ago | Middle East

Andrew Tate held overnight after police raid homes in Romania

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44 mins ago | Europe

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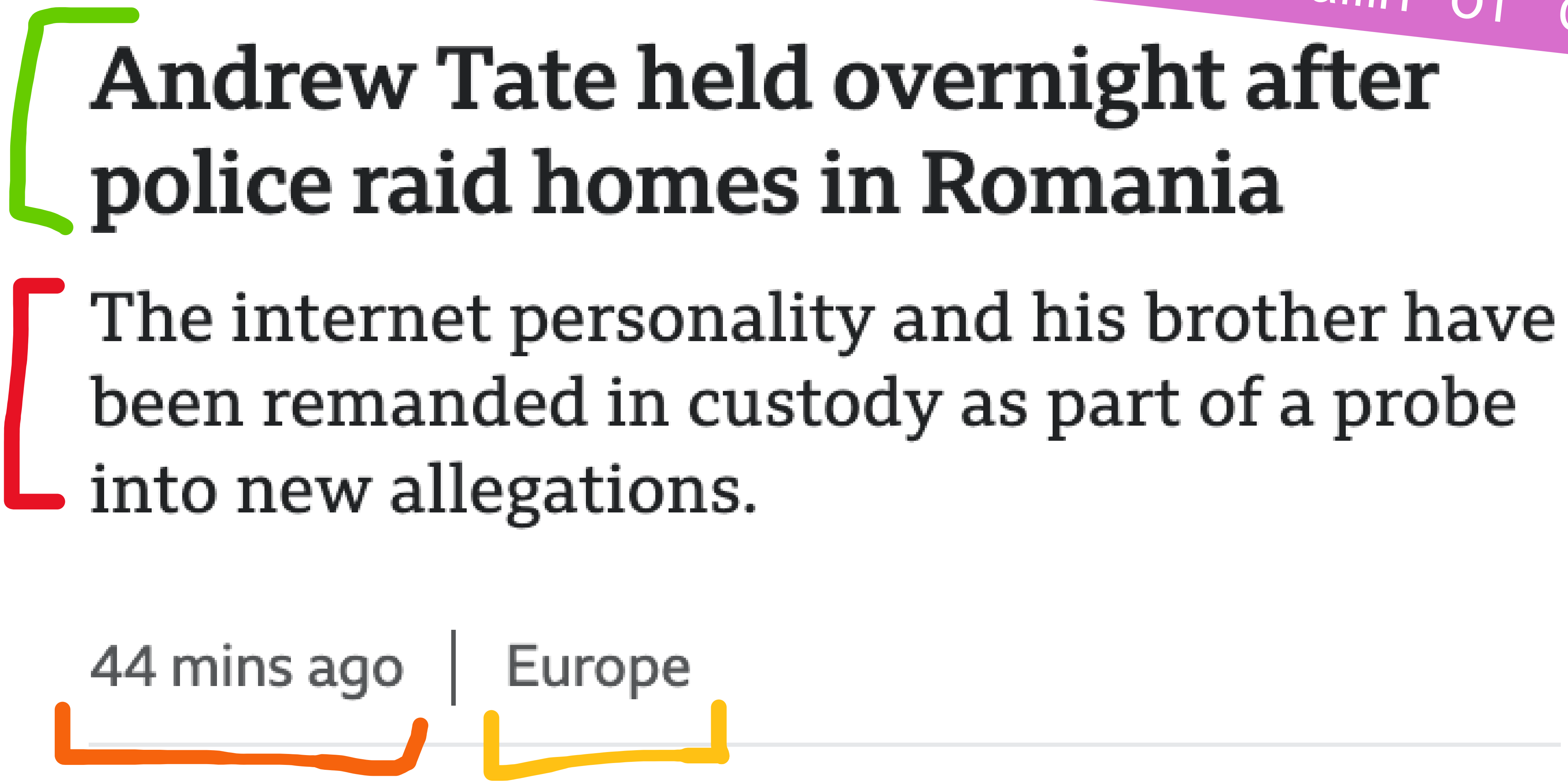

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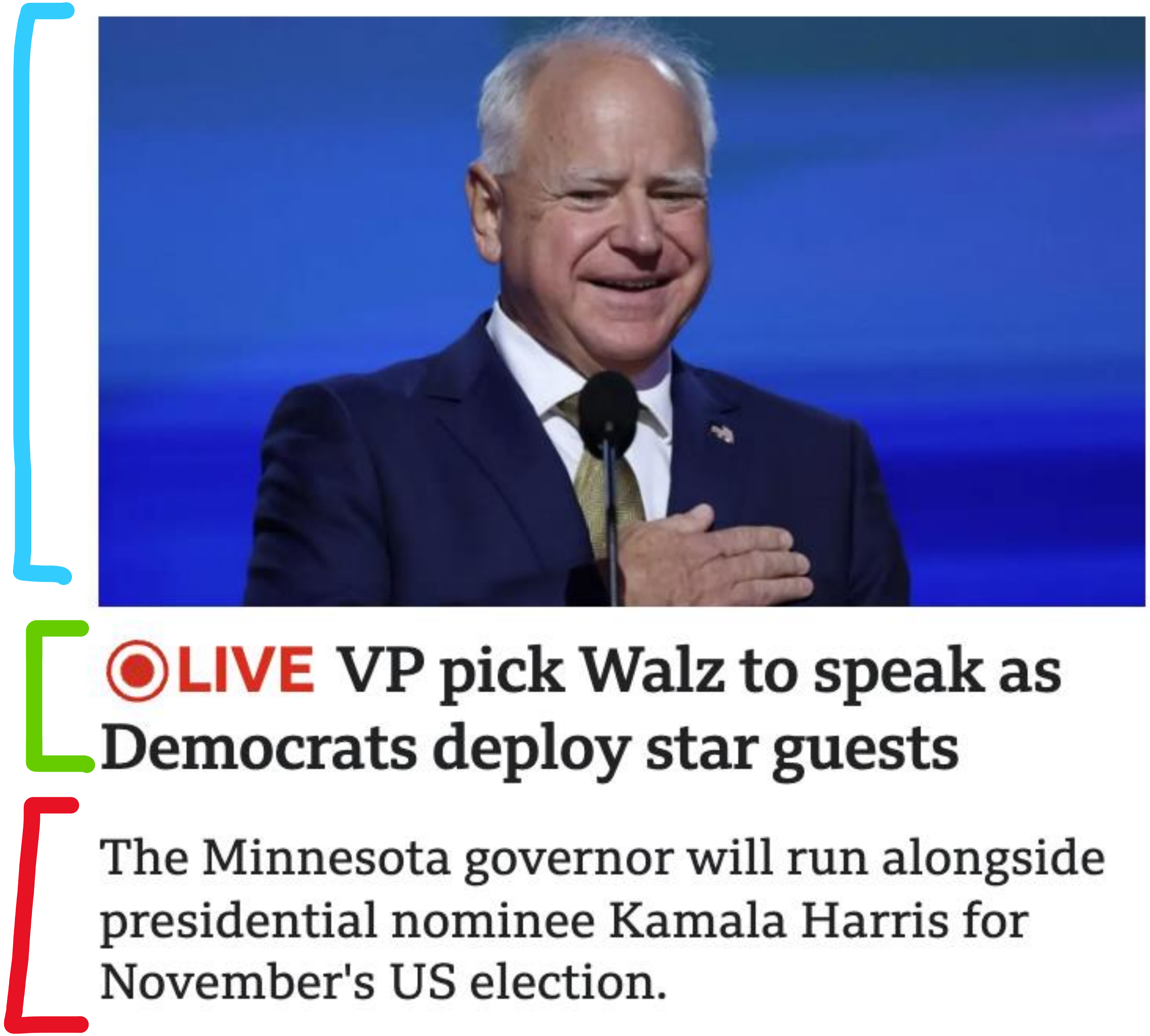
44 mins ago | Europe



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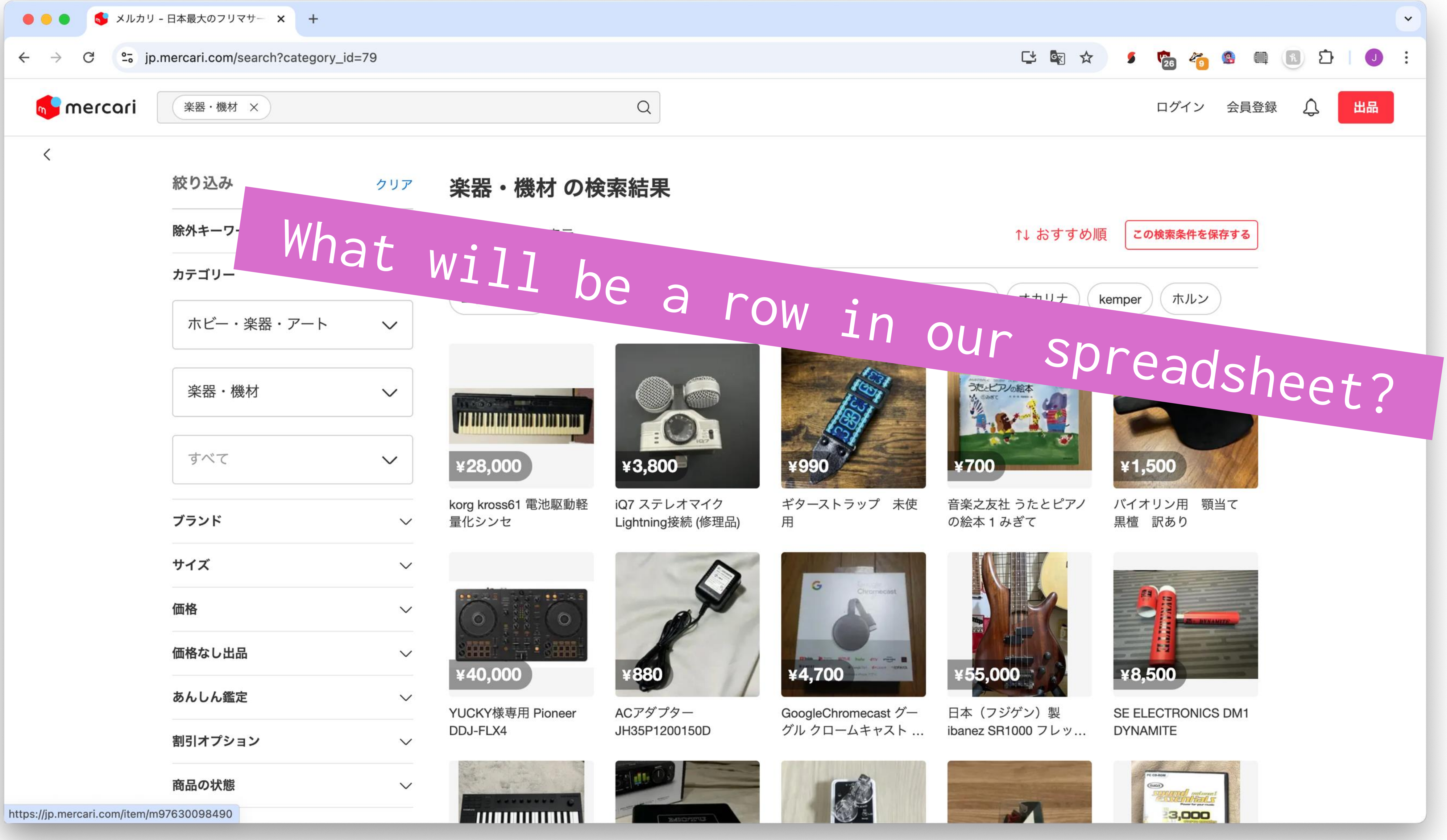

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jp.mercari.com/search?category_id=79

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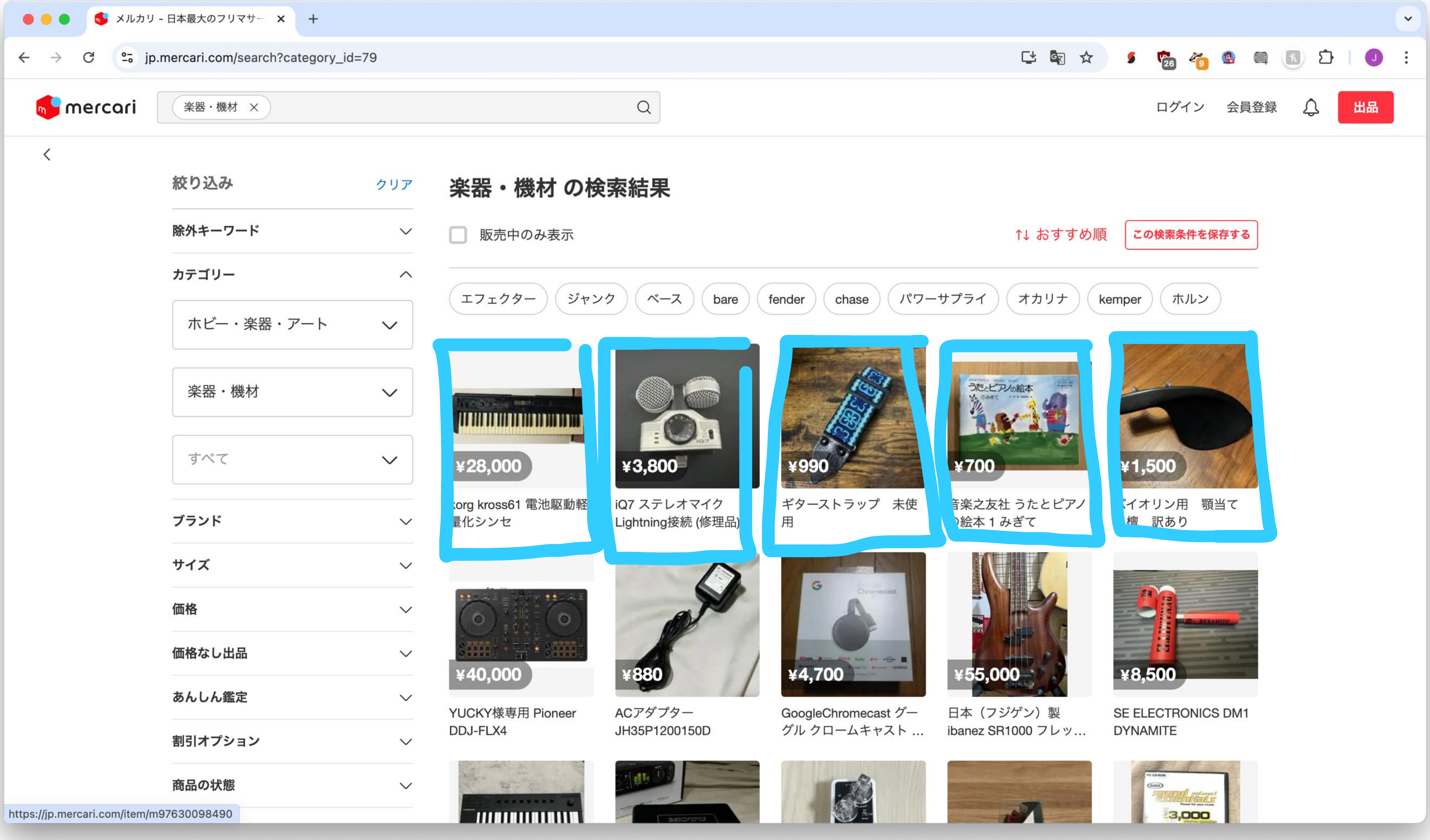
出品
絞り込み
クリア
除外キーワ
カテゴリー
ホビー・楽器・アート
楽器・機材
すべて
ブランド
サイズ
価格
価格なし出品
あんしん鑑定
割引オプション
商品の状態
↑↓ おすすめ順
この検索条件を保存する
オカリナ
kemper
ホルン

楽器・機材 の検索結果

価格	商品名
¥28,000	korg kross61 電池駆動軽量化シンセ
¥3,800	iQ7 ステレオマイク Lightning接続 (修理品)
¥990	ギターストラップ　未使用
¥700	音楽之友社 うたとピアノの絵本 1 みぎて
¥1,500	バイオリン用　顎当て 黒檀　訳あり
¥40,000	YUCKY様専用 Pioneer DDJ-FLX4
¥880	ACアダプター JH35P1200150D
¥4,700	GoogleChromecast グーグル クロームキャスト …
¥55,000	日本（フジゲン）製 ibanez SR1000 フレッ…
¥8,500	SE ELECTRONICS DM1 DYNAMITE

https://jp.mercari.com/item/m97630098490



メルカリ - 日本最大のフリマサー
jp.mercari.com/search?category_id=79
mercari
楽器・機材
ログイン
会員登録
出品

絞り込み　クリア

除外キーワード

カテゴリー

ホビー・楽器・アート

楽器・機材

すべて

ブランド

サイズ

価格

価格なし出品

あんしん鑑定

割引オプション

商品の状態

楽器・機材 の検索結果

□ 販売中のみ表示

↑↓ おすすめ順　この検索条件を保存する

エフェクター　ジャンク　ベース　bare　fender　chase　パワーサプライ　オカリナ　kemper　ホルン

価格	商品名
¥28,000	korg kross61 電池駆動軽量化シンセ
¥3,800	iQ7 ステレオマイク Lightning接続 (修理品)
¥990	ギターストラップ　未使用
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¥4,700	GoogleChromecast グーグル クロームキャスト …
¥55,000	日本（フジゲン）製 ibanez SR1000 フレッ…
¥8,500	SE ELECTRONICS DM1 DYNAMITE

https://jp.mercari.com/item/m97630098490

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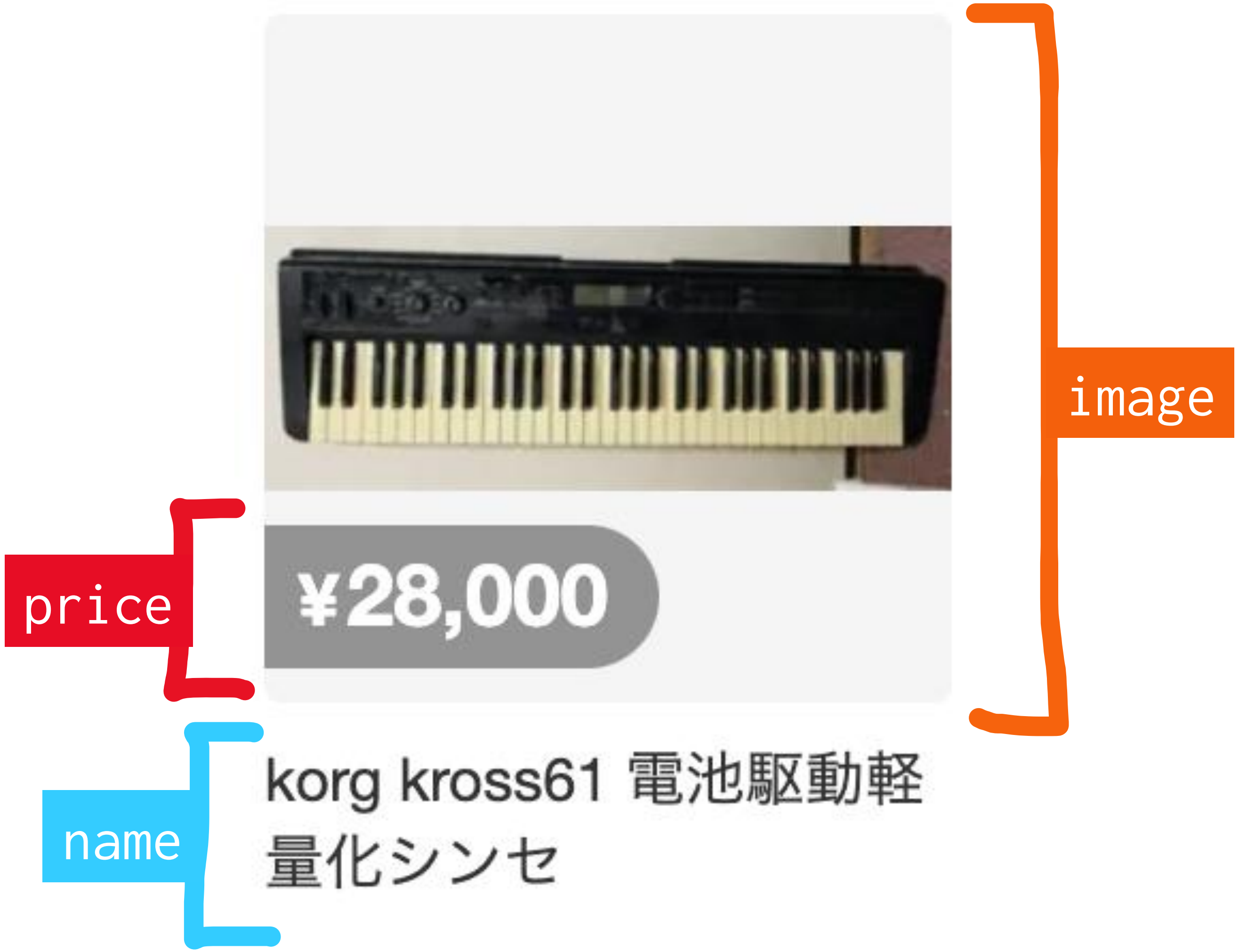


image
price
name

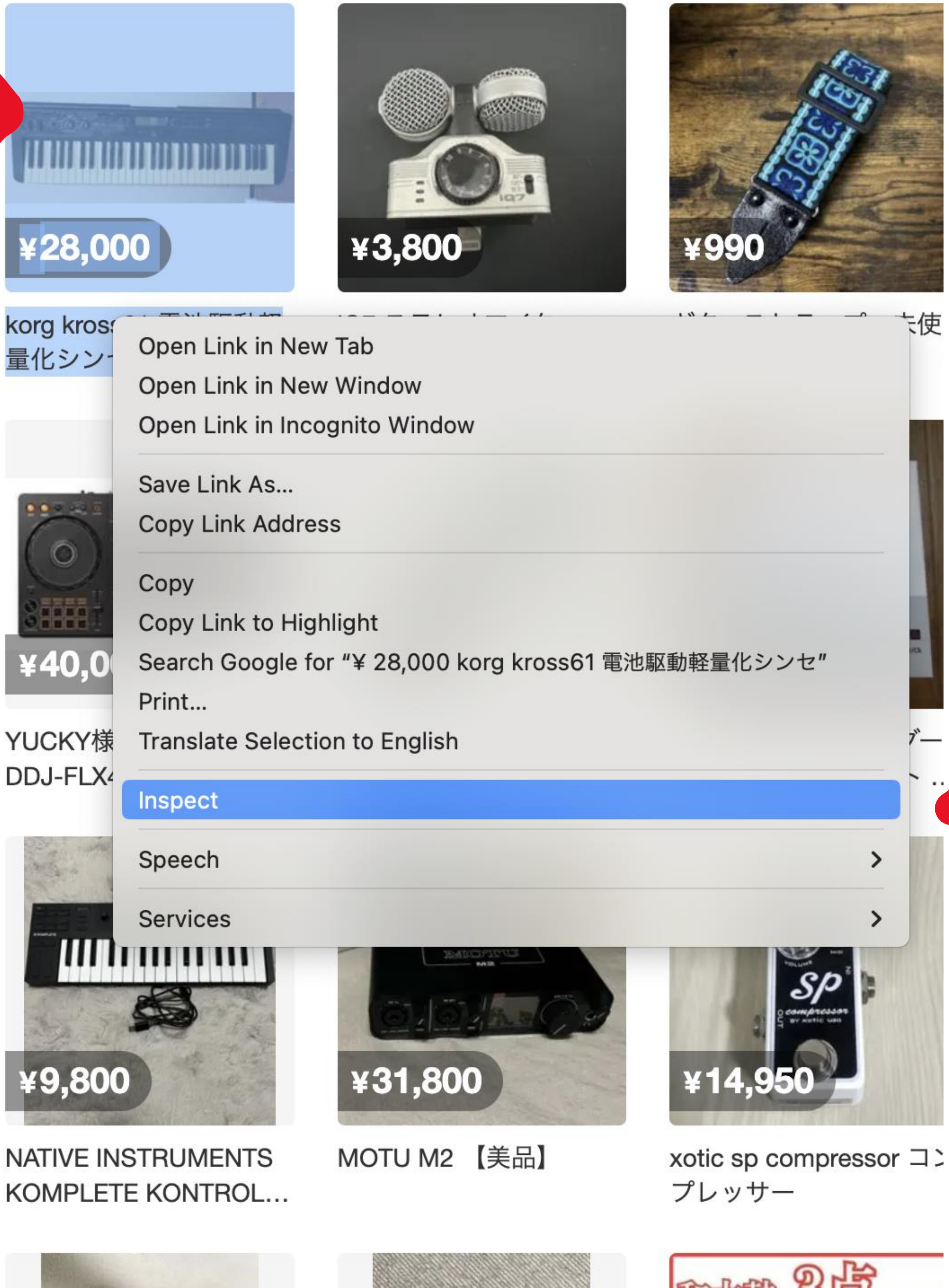
¥28,000

korg kross61 電池駆動軽量化シンセ

Computers don’t see like us (usually), we need to see

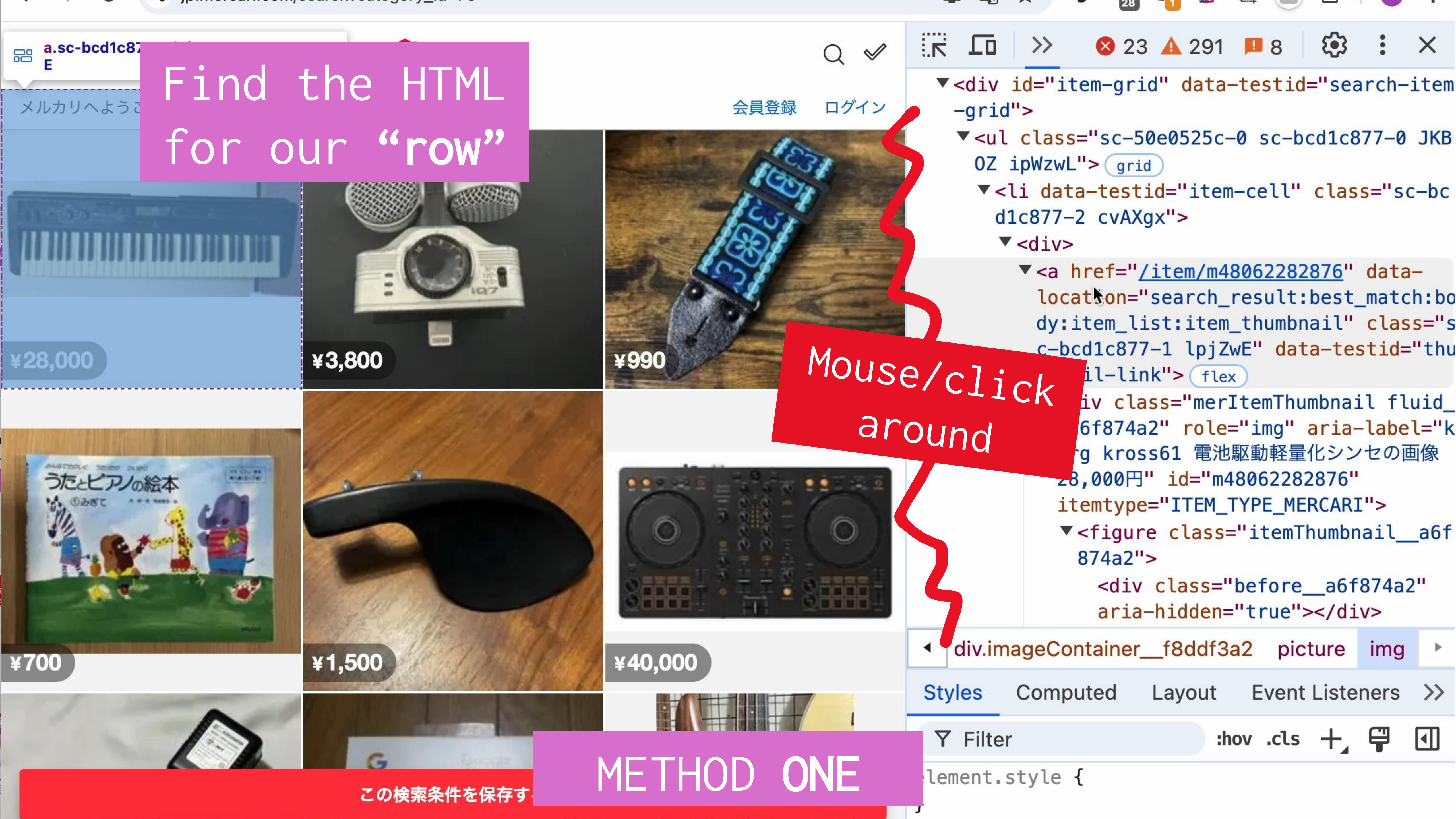
HTML code

Right click (or command+click) and Inspect


¥28,000
¥3,800
¥990
korg kross
量化シン
YUCKY様
DDJ-FLX
¥40,0
Open Link in New Tab
Open Link in New Window
Open Link in Incognito Window
Save Link As...
Copy Link Address
Copy
Copy Link to Highlight
Search Google for "¥ 28,000 korg kross61 電池駆動軽量化シンセ"
Print...
Translate Selection to English
Inspect
Speech
Services
¥9,800
¥31,800
¥14,950
NATIVE INSTRUMENTS KOMPLETE KONTROL...
MOTU M2 【美品】
xotic sp compressor コン
プレッサー

検証

Find the HTML for our "row"



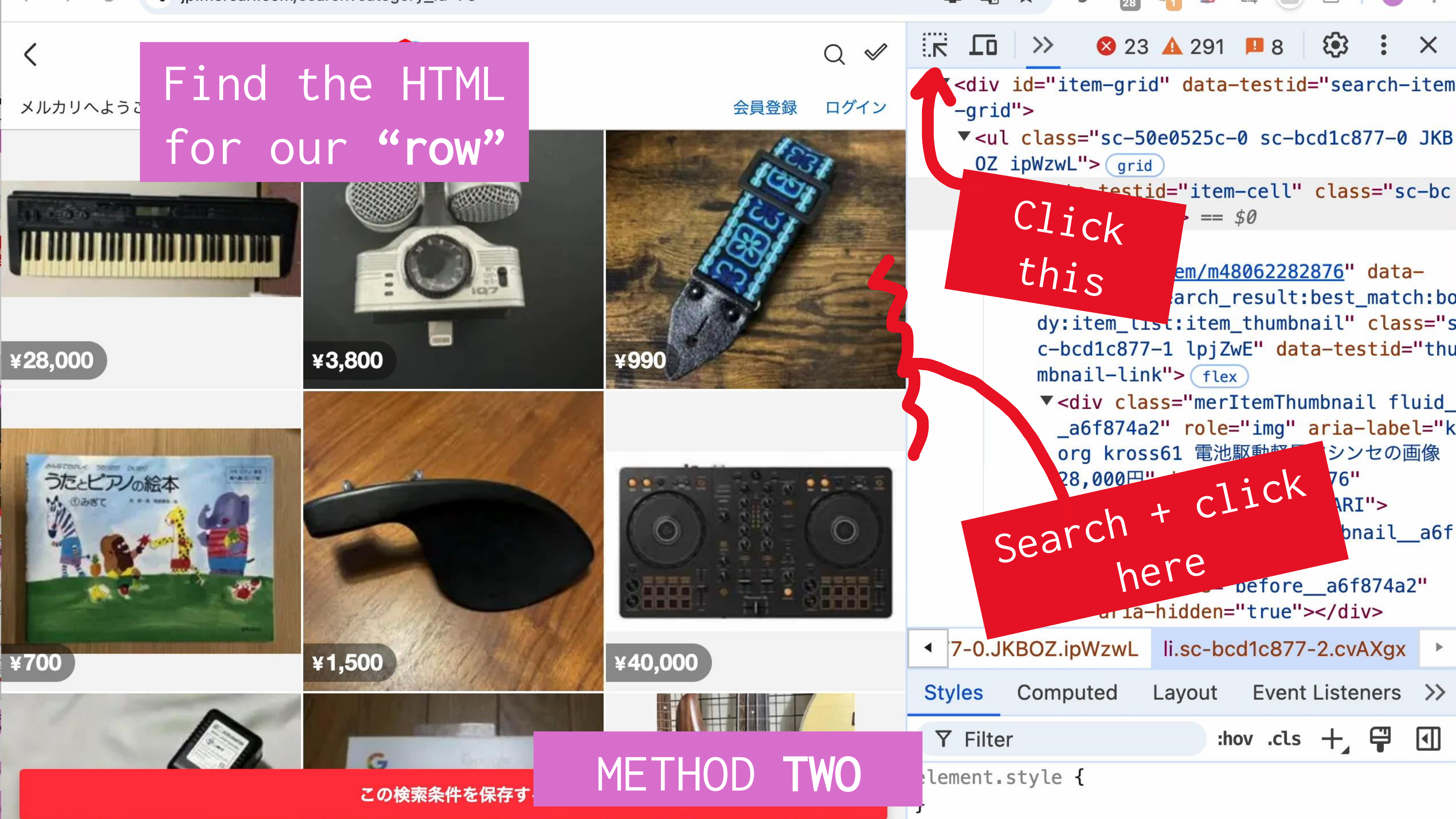
a.sc-bcd1c877
E
メルカリへようこ
会員登録
ログイン
¥28,000
¥3,800
¥990
¥700
¥1,500
¥40,000
この検索条件を保存す
23
291
8
div.imageContainer__f8ddf3a2
picture
img
Styles
Computed
Layout
Event Listeners
Filter
:hov
.cls

```
▼<div id="item-grid" data-testid="search-item
 -grid">
  ▼<ul class="sc-50e0525c-0 sc-bcd1c877-0 JKB
   OZ ipWzwL"> grid
    ▼<li data-testid="item-cell" class="sc-bc
     d1c877-2 cvAXgx">
      ▼<div>
        ▼<a href="/item/m48062282876" data-
         location="search_result:best_match:bo
         dy:item_list:item_thumbnail" class="s
         c-bcd1c877-1 lpjZwE" data-testid="thu
           il-link"> flex
           iv class="merItemThumbnail fluid_
           6f874a2" role="img" aria-label="k
           rg kross61 電池駆動軽量化シンセの画像
           28,000円" id="m48062282876"
           itemtype="ITEM_TYPE_MERCARI">
          ▼<figure class="itemThumbnail__a6f
           874a2">
             <div class="before__a6f874a2"
             aria-hidden="true"></div>
element.style {
```

Mouse/click around

METHOD ONE

Find the HTML for our "row"


メルカリへようこ
会員登録
ログイン
¥28,000
¥3,800
¥990
¥700
¥1,500
¥40,000
この検索条件を保存す
23
291
8
grid
flex
Styles
Computed
Layout
Event Listeners
Filter
:hov
.cls

```
▼<div id="item-grid" data-testid="search-item
-grid">
 ▼<ul class="sc-50e0525c-0 sc-bcd1c877-0 JKB
  OZ ipWzwL"> grid
      testid="item-cell" class="sc-bc
                  == $0
              em/m48062282876" data-
              arch_result:best_match:bo
     dy:item_list:item_thumbnail" class="s
     c-bcd1c877-1 lpjZwE" data-testid="thu
     mbnail-link"> flex
      ▼<div class="merItemThumbnail fluid_
       _a6f874a2" role="img" aria-label="k
       org kross61 電池駆動軽        シンセの画像
       28,000円"                      76"
                                      ARI">
                                      bnail__a6f
                    before__a6f874a2"
              ia-hidden="true"></div>
```

`7-0.JKBOZ.ipWzwL` `li.sc-bcd1c877-2.cvAXgx`

```
element.style {
}
```

Click this

Search + click here

METHOD TWO

amazon.com search results

Headlines from Nikkei Asia

datasets on data.gov.ro

Now try it.

Anywhere!!!!

Sales at Lidl

Wikipedia's Fictional Big Cats

List of amphibians from Germany's Red List Center

School Board Minutes from Grand Island Public Schools in Nebraska

Scraping is ju

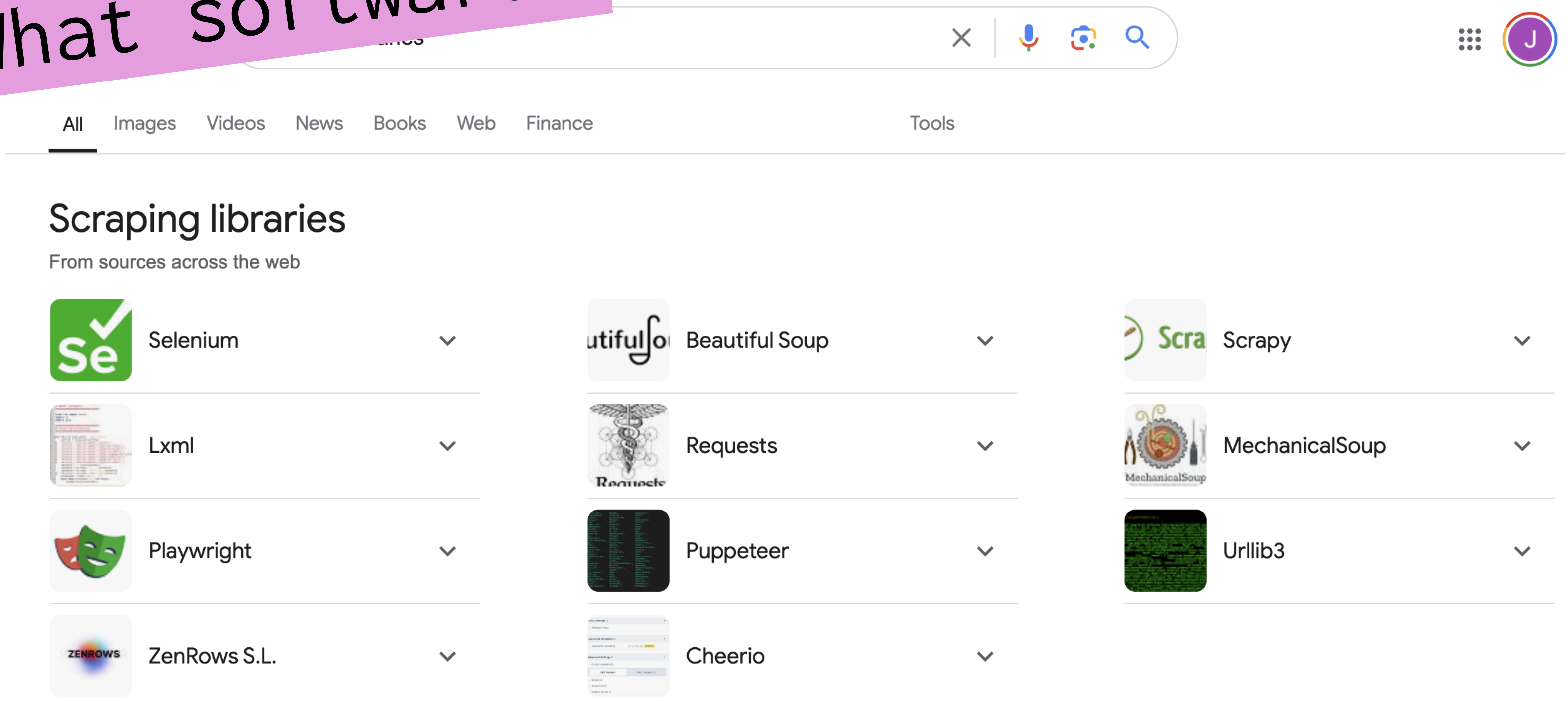
conn

o to columns in

your spreadsheet

But we need some software to do that for us!

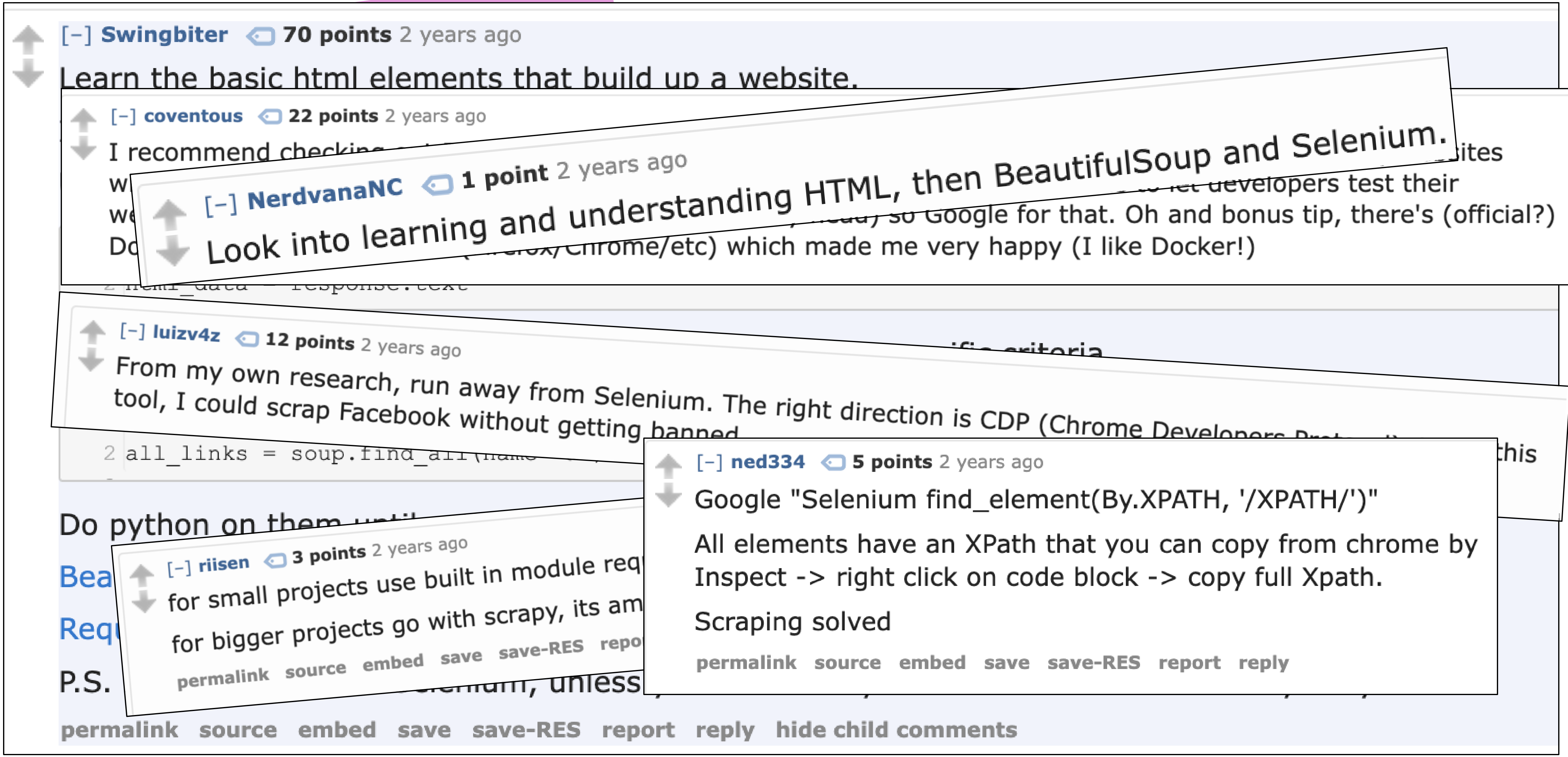
What software?


All
Images
Videos
News
Books
Web
Finance
Tools

Scraping libraries

From sources across the web

- Selenium
- Beautiful Soup
- Scrapy
- Lxml
- Requests
- MechanicalSoup
- Playwright
- Puppeteer
- Urllib3
- ZenRows S.L.
- Cheerio



[–] **Swingbiter** 70 points 2 years ago

Learn the basic html elements that build up a website.

[–] **coventous** 22 points 2 years ago

I recommend checking … sites

w… to let developers test their

we… so Google for that. Oh and bonus tip, there's (official?)

Do… (Firefox/Chrome/etc) which made me very happy (I like Docker!)

[–] **NerdvanaNC** 1 point 2 years ago

Look into learning and understanding HTML, then BeautifulSoup and Selenium.

```
html_data = response.text
```

…ific criteria

[–] **luizv4z** 12 points 2 years ago

From my own research, run away from Selenium. The right direction is CDP (Chrome Developers Prot…

tool, I could scrap Facebook without getting banned.

…this

```
all_links = soup.find_all(name
```

[–] **ned334** 5 points 2 years ago

Google "Selenium find_element(By.XPATH, '/XPATH/')"

All elements have an XPath that you can copy from chrome by Inspect -> right click on code block -> copy full Xpath.

Scraping solved

permalink source embed save save-RES report reply

Do python on them unti…

Bea…

Req…

[–] **riisen** 3 points 2 years ago

for small projects use built in module req…

for bigger projects go with scrapy, its am…

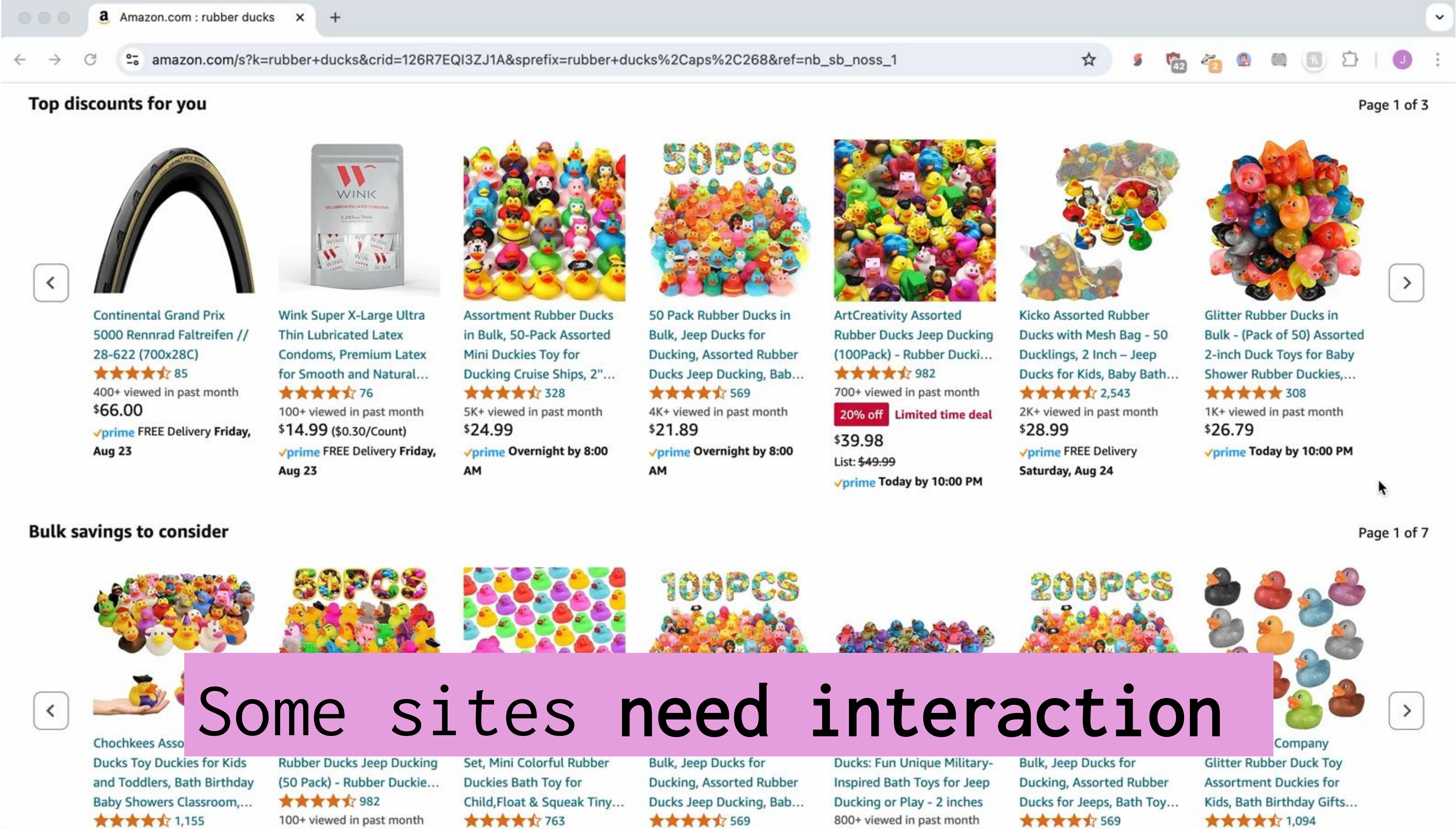
permalink source embed save save-RES repo…

P.S. …elenium, unless …

permalink source embed save save-RES report reply hide child comments

Selenium is **garbage**!

…but BeautifulSoup
can't scrape all sites.



Amazon.com : rubber ducks
amazon.com/s?k=rubber+ducks&crid=126R7EQI3ZJ1A&sprefix=rubber+ducks%2Caps%2C268&ref=nb_sb_noss_1

Top discounts for you

Page 1 of 3

Continental Grand Prix 5000 Rennrad Faltreifen // 28-622 (700x28C)
85
400+ viewed in past month
$66.00
prime FREE Delivery **Friday, Aug 23**

Wink Super X-Large Ultra Thin Lubricated Latex Condoms, Premium Latex for Smooth and Natural...
76
100+ viewed in past month
$14.99 ($0.30/Count)
prime FREE Delivery **Friday, Aug 23**

Assortment Rubber Ducks in Bulk, 50-Pack Assorted Mini Duckies Toy for Ducking Cruise Ships, 2"...
328
5K+ viewed in past month
$24.99
prime **Overnight by 8:00 AM**

50 Pack Rubber Ducks in Bulk, Jeep Ducks for Ducking, Assorted Rubber Ducks Jeep Ducking, Bab...
569
4K+ viewed in past month
$21.89
prime **Overnight by 8:00 AM**

ArtCreativity Assorted Rubber Ducks Jeep Ducking (100Pack) - Rubber Ducki...
982
700+ viewed in past month
20% off Limited time deal
$39.98
List: ~~$49.99~~
prime **Today by 10:00 PM**

Kicko Assorted Rubber Ducks with Mesh Bag - 50 Ducklings, 2 Inch – Jeep Ducks for Kids, Baby Bath...
2,543
2K+ viewed in past month
$28.99
prime FREE Delivery **Saturday, Aug 24**

Glitter Rubber Ducks in Bulk - (Pack of 50) Assorted 2-inch Duck Toys for Baby Shower Rubber Duckies,...
308
1K+ viewed in past month
$26.79
prime **Today by 10:00 PM**

Bulk savings to consider

Page 1 of 7

Chochkees Asso… Ducks Toy Duckies for Kids and Toddlers, Bath Birthday Baby Showers Classroom,...
1,155

Rubber Ducks Jeep Ducking (50 Pack) - Rubber Duckie...
982
100+ viewed in past month

Set, Mini Colorful Rubber Duckies Bath Toy for Child,Float & Squeak Tiny...
763

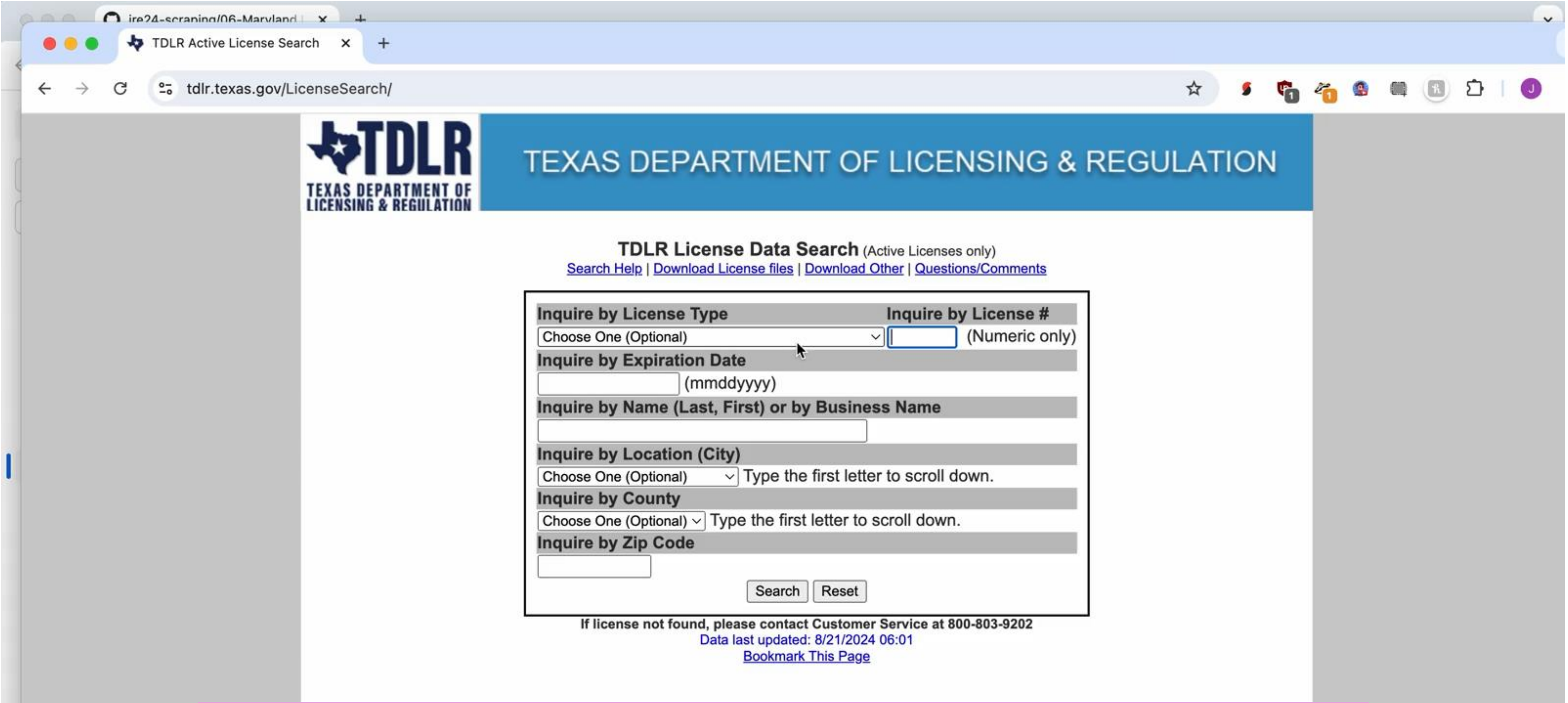
Bulk, Jeep Ducks for Ducking, Assorted Rubber Ducks Jeep Ducking, Bab...
569

Ducks: Fun Unique Military-Inspired Bath Toys for Jeep Ducking or Play - 2 inches
800+ viewed in past month

Bulk, Jeep Ducks for Ducking, Assorted Rubber Ducks for Jeeps, Bath Toy...
569

Company Glitter Rubber Duck Toy Assortment Duckies for Kids, Bath Birthday Gifts...
1,094

Some sites need interaction


ire24-scraping/06-Maryland
TDLR Active License Search
tdlr.texas.gov/LicenseSearch/
TDLR
TEXAS DEPARTMENT OF LICENSING & REGULATION

TEXAS DEPARTMENT OF LICENSING & REGULATION

TDLR License Data Search (Active Licenses only)

Search Help | Download License files | Download Other | Questions/Comments

Inquire by License Type Choose One (Optional)

Inquire by License # (Numeric only)

Inquire by Expiration Date (mmddyyyy)

Inquire by Name (Last, First) or by Business Name

Inquire by Location (City) Choose One (Optional) Type the first letter to scroll down.

Inquire by County Choose One (Optional) Type the first letter to scroll down.

Inquire by Zip Code

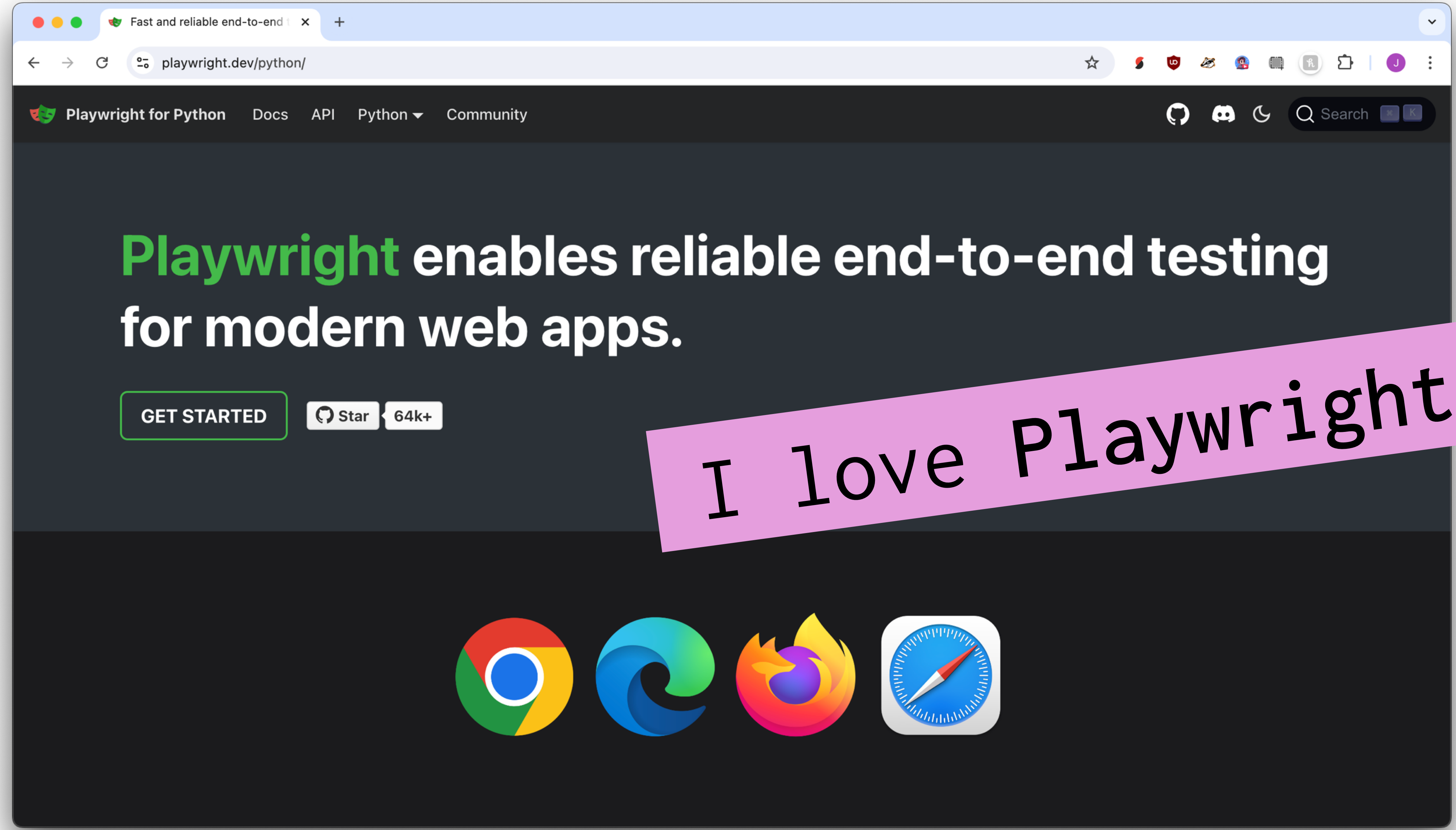
Search
Reset

If license not found, please contact Customer Service at 800-803-9202

Data last updated: 8/21/2024 06:01

Bookmark This Page

Some sites **need interaction**


Fast and reliable end-to-end
playwright.dev/python/
Playwright for Python
Docs
API
Python
Community
Search
GET STARTED
Star
64k+

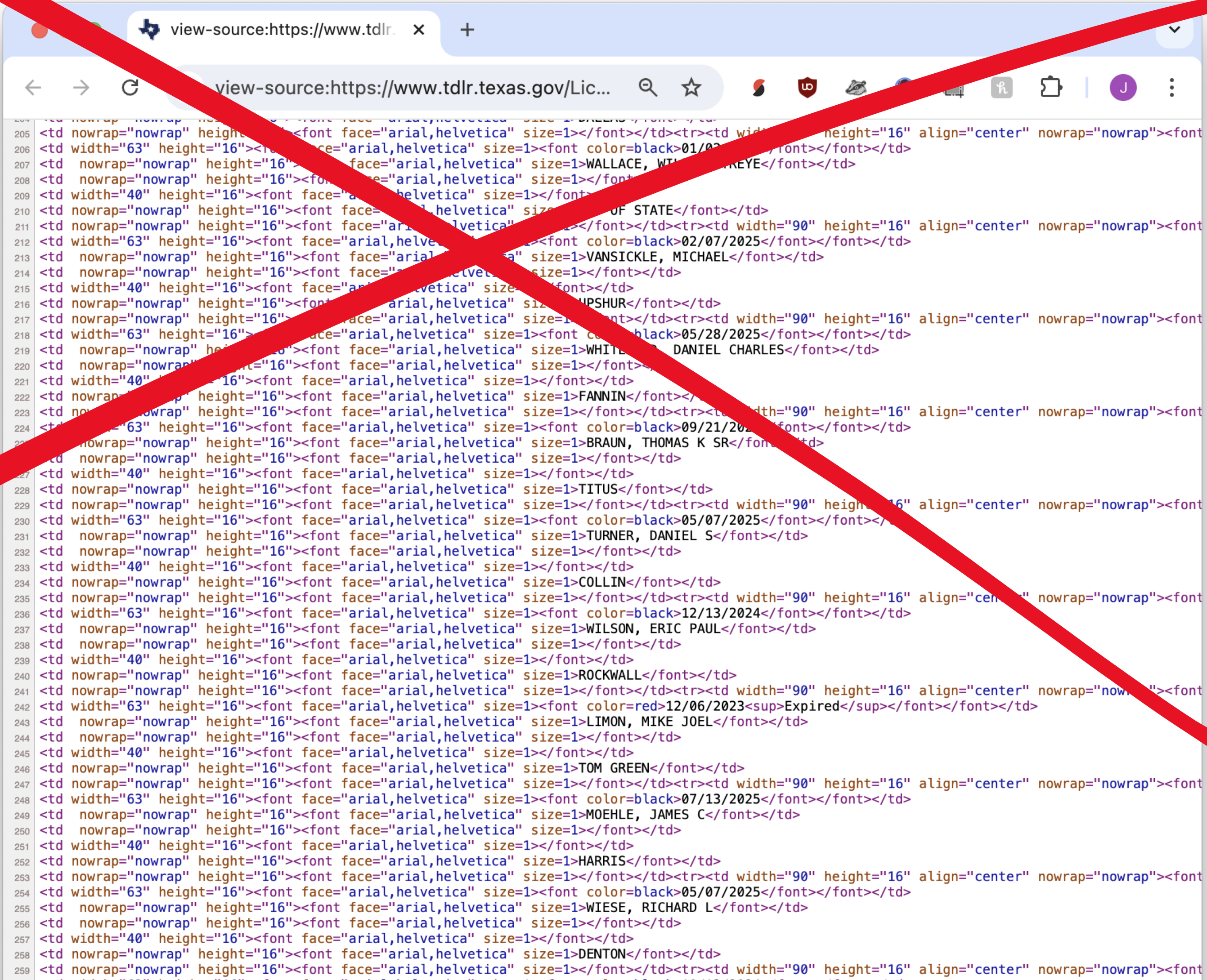
Playwright enables reliable end-to-end testing for modern web apps.

I love Playwright!

Playwright is **perfect**! *But!* It’s **new**, so ChatGPT isn’t very good at it. *But!* We try.

Playwright + ChatGPT +
pasting samples of HTML
=
infinite scrapers 🎉

“Write a scraper for these search results:”


view-source:https://www.tdlr.
view-source:https://www.tdlr.texas.gov/Lic...
J

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<td nowrap="nowrap" height="16"><font face="arial,helvetica" size=1>DALLAS</font></td>
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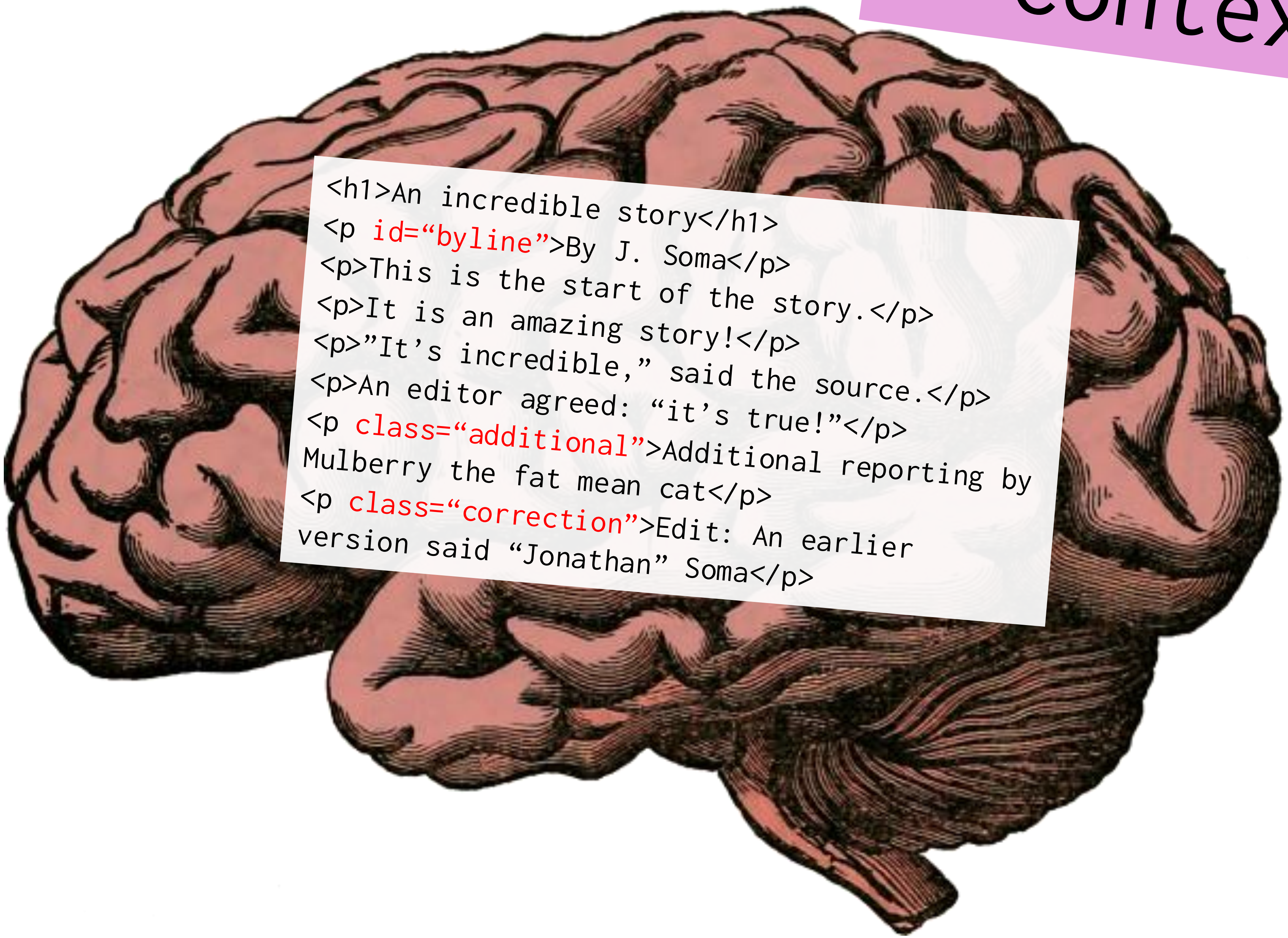
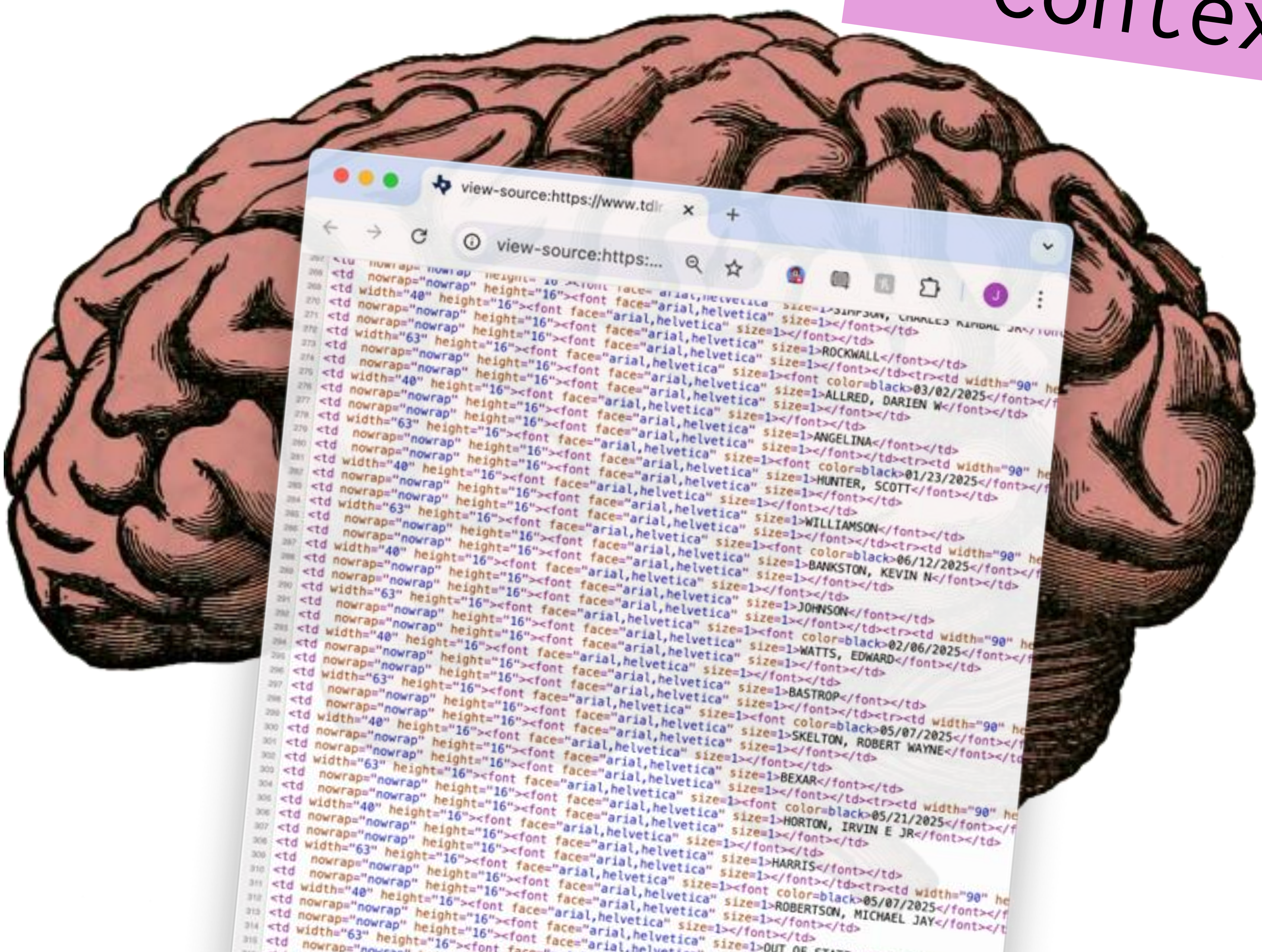
“Context window”



```
<h1>An incredible story</h1>
<p id=“byline”>By J. Soma</p>
<p>This is the start of the story.</p>
<p>It is an amazing story!</p>
<p>”It’s incredible,” said the source.</p>
<p>An editor agreed: “it’s true!”</p>
<p class=“additional”>Additional reporting by
Mulberry the fat mean cat</p>
<p class=“correction”>Edit: An earlier
version said “Jonathan” Soma</p>
```

“Context window”


view-source:https://www.tdlr
view-source:https:...

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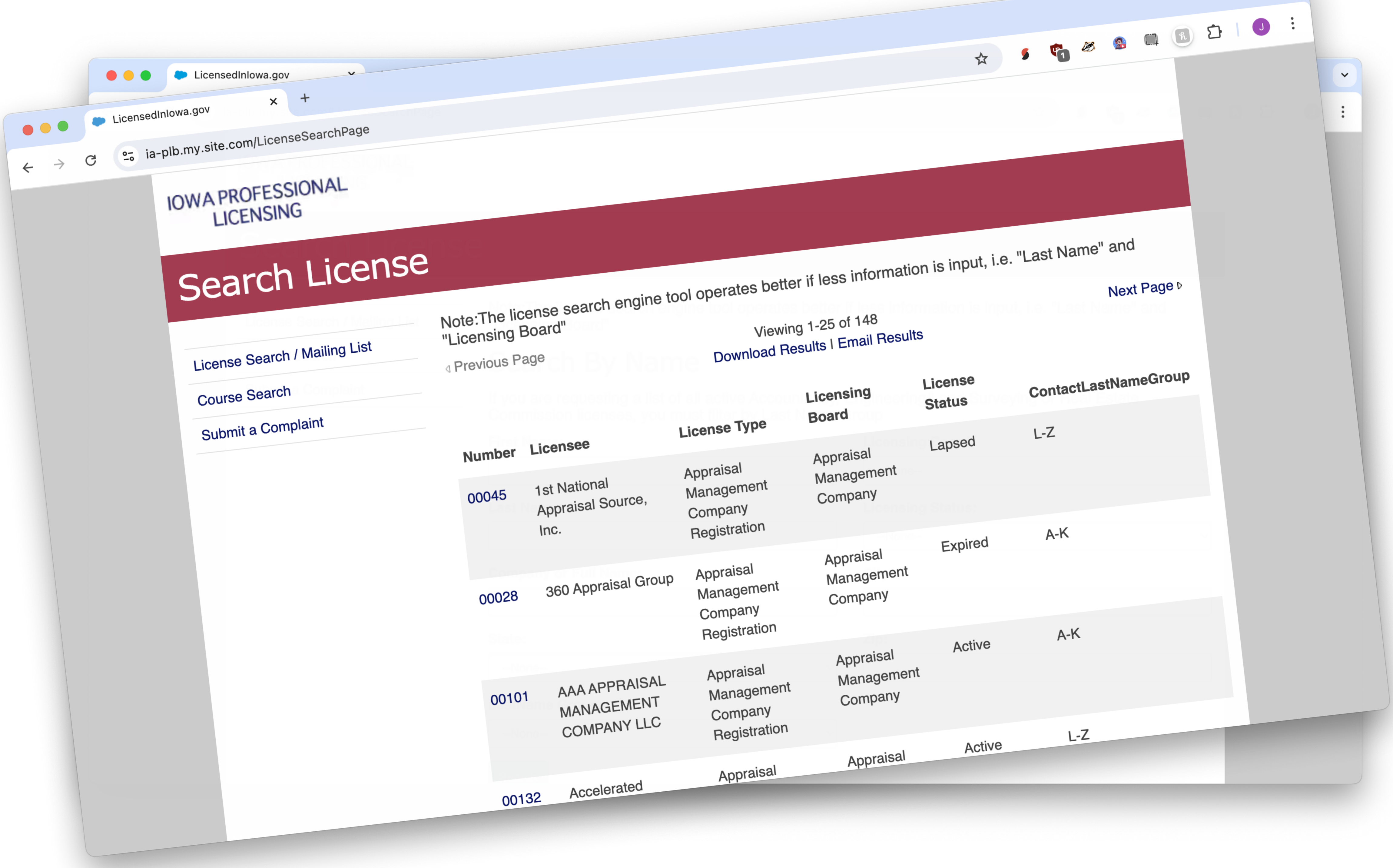
```

What we might need:

- Start URL
- Forms to fill out *(optional)*
- “Rows” of our spreadsheet
- Pagination/”next” pages *(optional)*
- A **magical prompt**

https://bit.ly/ds-dojo-2024

First, sit and relax
and **read the notes**
while watching me



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ia-plb.my.site.com/LicenseSearchPage
IOWA PROFESSIONAL LICENSING

Search License

- License Search / Mailing List
- Course Search
- Submit a Complaint

Note:The license search engine tool operates better if less information is input, i.e. "Last Name" and "Licensing Board"

Next Page
Previous Page

Viewing 1-25 of 148

Download Results | Email Results

Number	Licensee	License Type	Licensing Board	License Status	ContactLastNameGroup
00045	1st National Appraisal Source, Inc.	Appraisal Management Company Registration	Appraisal Management Company	Lapsed	L-Z
00028	360 Appraisal Group	Appraisal Management Company Registration	Appraisal Management Company	Expired	A-K
00101	AAA APPRAISAL MANAGEMENT COMPANY LLC	Appraisal Management Company Registration	Appraisal Management Company	Active	A-K
00132	Accelerated	Appraisal	Appraisal	Active	L-Z

https://bit.ly/ds-dojo-2024

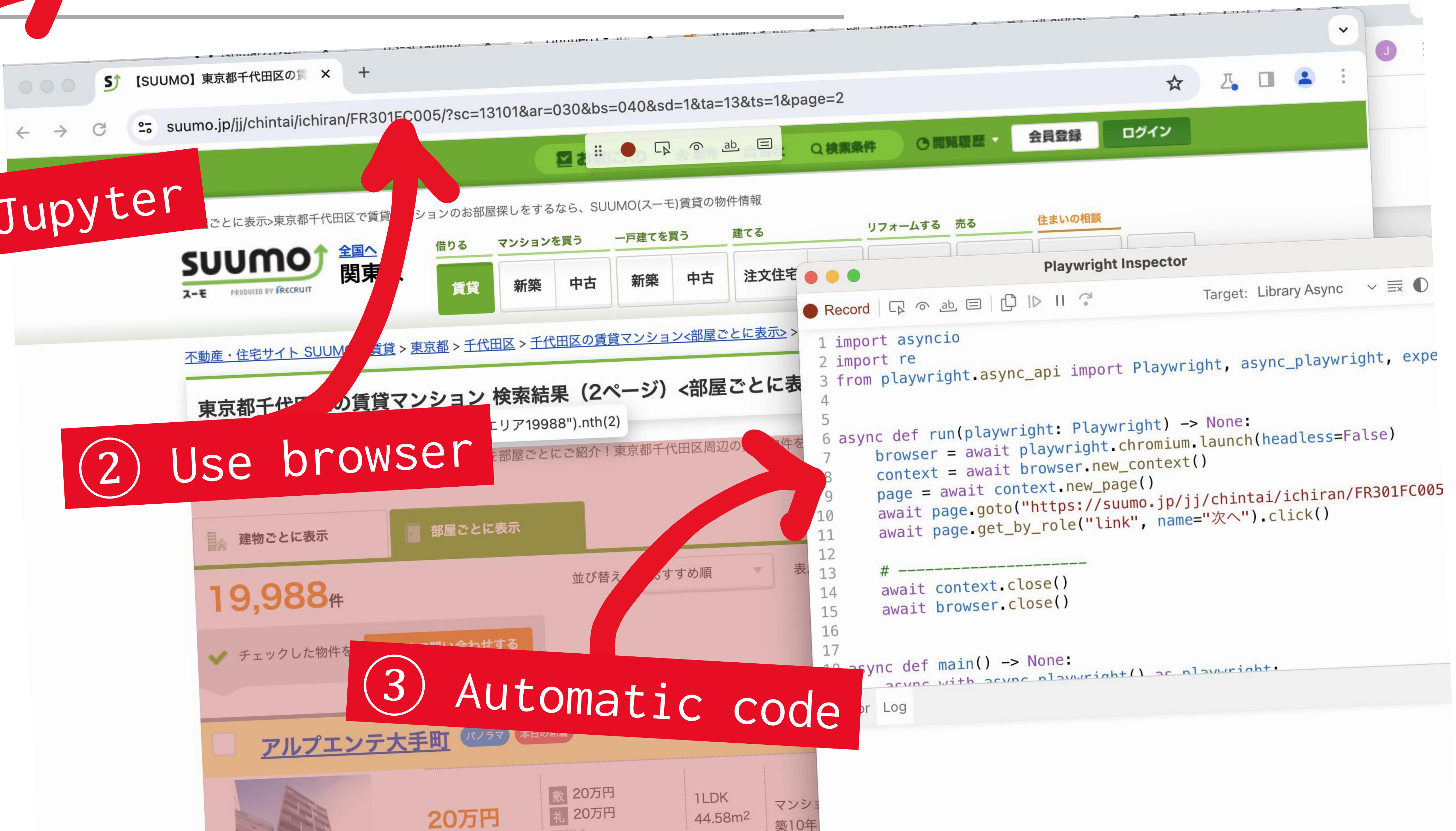
Now open a new notebook
and you try!

```
In [*]: !playwright codegen
```

① Run in Jupyter

② Use browser

③ Automatic code


【SUUMO】東京都千代田区の賃
suumo.jp/jj/chintai/ichiran/FR301FC005/?sc=13101&ar=030&bs=040&sd=1&ta=13&ts=1&page=2
会員登録
ログイン
SUUMO
借りる
マンションを買う
一戸建てを買う
建てる
リフォームする
売る
住まいの相談
賃貸
新築
中古
新築
中古
注文住宅
不動産・住宅サイト SUUMO > 賃貸 > 東京都 > 千代田区 > 千代田区の賃貸マンション<部屋ごとに表示>
東京都千代田区の賃貸マンション 検索結果（2ページ）<部屋ごとに表
エリア19988").nth(2)
建物ごとに表示
部屋ごとに表示
19,988件
並び替え
おすすめ順
チェックした物件を
アルプエンテ大手町
20万円
敷 20万円
礼 20万円
1LDK
44.58m2
Playwright Inspector
Record
Target: Library Async
Log

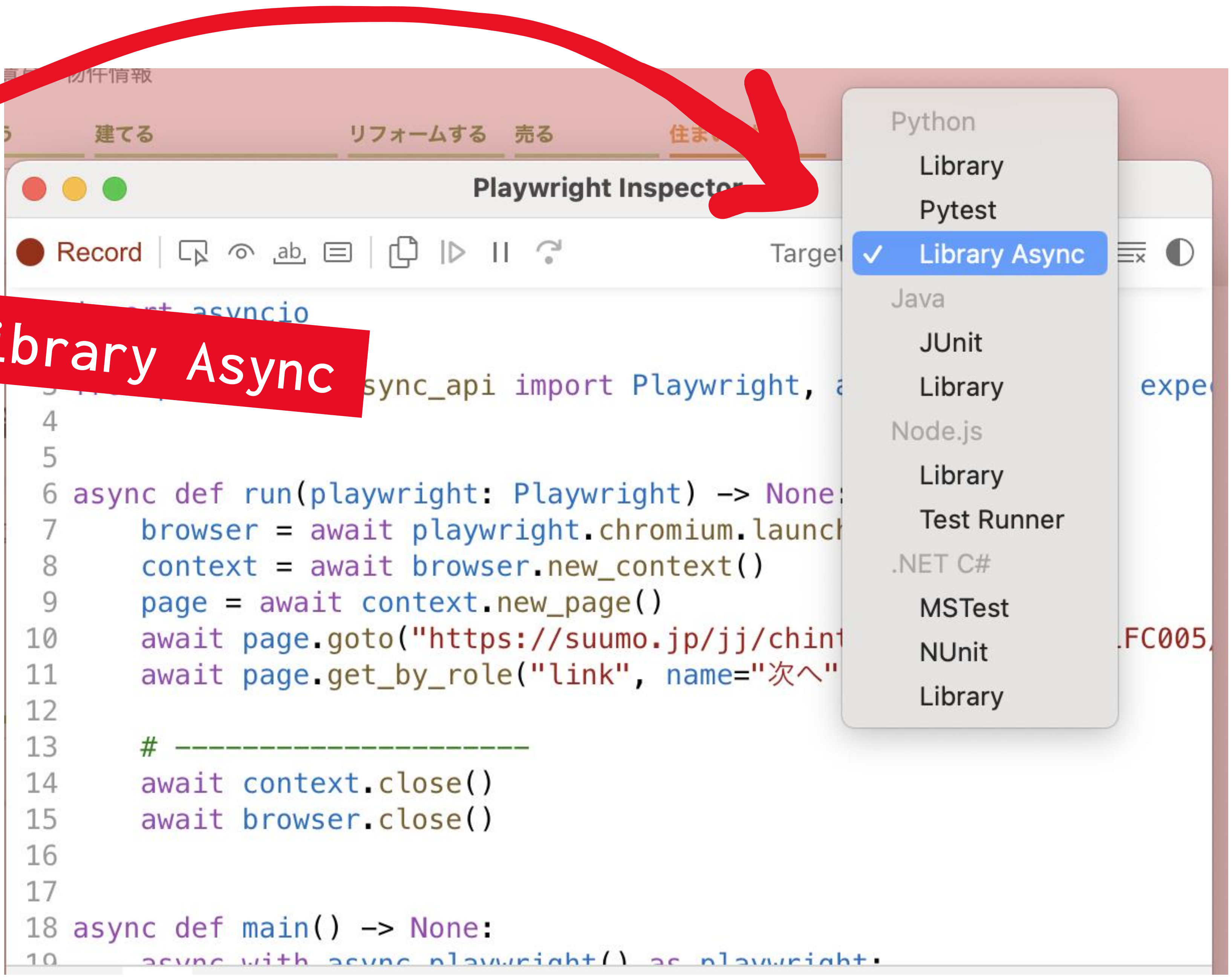
```
import asyncio
import re
from playwright.async_api import Playwright, async_playwright, expe


async def run(playwright: Playwright) -> None:
    browser = await playwright.chromium.launch(headless=False)
    context = await browser.new_context()
    page = await context.new_page()
    await page.goto("https://suumo.jp/jj/chintai/ichiran/FR301FC005
    await page.get_by_role("link", name="次へ").click()

    # ---------------------
    await context.close()
    await browser.close()


async def main() -> None:
    async with async_playwright() as playwright:
```

Change to Python > Library Async


物件情報
建てる
リフォームする
売る
住ま
Playwright Inspector
Record
Target
Python
Library
Pytest
✓ Library Async
Java
JUnit
Library
Node.js
Library
Test Runner
.NET C#
MSTest
NUnit
Library

```
asyncio

sync_api import Playwright, a                       expe


async def run(playwright: Playwright) -> None:
    browser = await playwright.chromium.launc
    context = await browser.new_context()
    page = await context.new_page()
    await page.goto("https://suumo.jp/jj/chint                 .FC005/
    await page.get_by_role("link", name="次へ"

    # ---------------------
    await context.close()
    await browser.close()


async def main() -> None:
    async with async_playwright() as playwright:
```

Scraping!

stealing data from the
internet for fun
(and investigations!)