

LAB 2 ASSIGNMENT

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Question 1:

A. On-page SEO with structured data using JSON-LD

i. Identify the appropriate Schema.org type for the given content

(hint: "LocalBusiness"

→ "CafeOrCoffeeShop").

ii. Create a JSON-LD script containing relevant business details from the page (name,

description, address, contact, opening hours, etc.).

iii. Insert the JSON-LD script inside the <head> section of index.html.

iv. Validate the structured data using following validator tools (insert the entire html file

along with the script element):

<https://validator.schema.org/> or <https://redirection.io/tools/structured-data/test>

SOLUTION :

This is the code snippet which has the JSON LD for the site "Coffee Shop"

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  <title>The Coffee Corner</title>
```

```
  <meta name="description" content="The Coffee Corner is your go-to café for  
artisanal coffee, fresh pastries, and a cozy atmosphere in Pune.">
```

```
<script type="application/ld+json">
```

```
{
```

```
  "@context": "https://schema.org",
```

```
  "@type": "FoodEstablishment",
```

```
  "address": {
```

```
    "@type": "PostalAddress",
```

```
    "addressLocality": "Brew Street",
```

```
    "addressRegion": "Pune",
```

```
        "streetAddress": "123 Brew
        Street",
        "addressCountry": "India"
    },
    "contactPoint": {
        "@type": "ContactPoint",
        "email": "info@coffeecorner.com",
        "telephone": "+919876543210",
        "hoursAvailable": "8:00 AM-
        8:00PM"
    },
    "brand": {
        "@type": "Organization",
        "brand": "Coffee Corner"
    },
    "menu": [
        "Espresso",
        "Cappuccino",
        "Latte",
        "Freshly Baked Croissants"
    ]
}
```

```
</script>
</head>
<body>
    <header>
        <h1>Welcome to The Coffee Corner</h1>
        <p>Your daily dose of freshly brewed coffee and delicious snacks.</p>
    </header>
    <section>
        <h2>Our Specialties</h2>
        <ul>
            <li>Espresso</li>
            <li>Cappuccino</li>
            <li>Latte</li>
            <li>Freshly Baked Croissants</li>
        </ul>
    </section>
    <section>
        <h2>Visit Us</h2>
```

```

        <p>Address: 123 Brew Street, Pune, India</p>
        <p>Open: Mon–Sat, 8:00 AM – 8:00 PM</p>
    </section>
    <footer>
        <p>Contact: info@coffeecorner.com | Phone: +91 9876543210</p>
    </footer>
</body>
</html>

```

The above code was successfully verified using the online validator tool

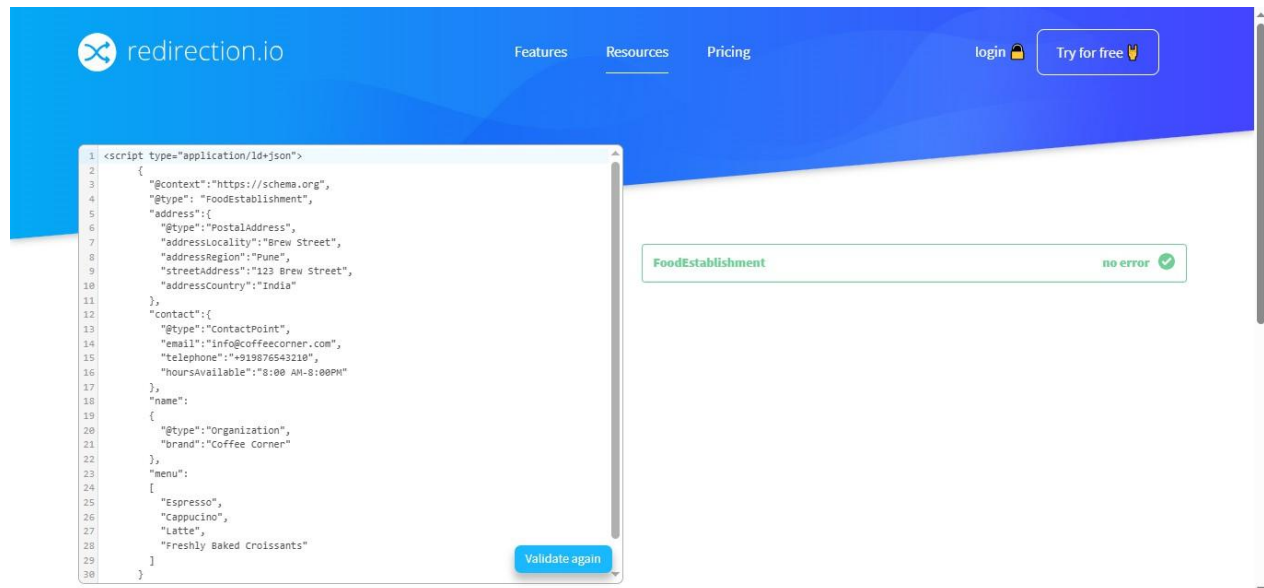
<https://validator.schema.org/>

The screenshot shows the Schema.org validator interface. The left pane contains the HTML code being validated, which includes a JSON-LD script for a FoodEstablishment. The right pane displays the resulting JSON-LD structure, showing the hierarchy of the data types used.

FoodEstablishment (All (1) ▼)

FoodEstablishment	
@type	FoodEstablishment
menu	Espresso
menu	Cappuccino
menu	Latte
menu	Freshly Baked Croissants
address	
@type	PostalAddress
addressLocality	Brew Street
addressRegion	Pune
streetAddress	123 Brew Street
addressCountry	
@type	Country
name	India

The above code is also verified using the tool
<https://redirection.io/tools/structured-data/test>



Question 2:

B. Keyword Research using SemRush Tool

i. Explore the tool: Read about the Competitive Research and Keyword research

ii. Use the Keyword Magic Tool (available in free version)

a. Search for terms related to “coffee shop” and note down:

1. Top 10 keyword suggestions
2. Their search volume
3. Keyword difficulty (KD) score
4. Intent

ntent

Answer:

Keyword	Intent	Volume	KD Score
Coffee shops near me	T	550.0k	85%

Coffee shop near me	T	301.0k	92%
---------------------	---	--------	-----

Coffee in shop	C	165.0k	21%
Coffee shop	C	135.0k	78%
Coffee shops	C	40.5k	64%
Shop pour over coffee makers	IT	27.1k	19%
Best coffee shops near me	T	14.8k	29%
Local coffee shops near me	T	14.8k	32%
Coffee shops hiring near me	T	12.1k	20%
The coffee shop	C	12.1k	32%

iii. Use Keyword Gap Tool to compare your keyword profile with competitors and include them on your page

a. Add competitor café's website domains.

Answer:

1. <https://www.starbucks.in/>
2. <https://www.cafecoffeeday.com/>

b. Analyze their:

Top organic keywords

Opportunities (weak, missed, untapped keywords)

Shared 149		Missing 1.3K		Weak 82		Strong 67		Untapped 1.3K		Unique 6.2K		All 7.7K		+ Add to keyword list		⬆ Export	
<input type="checkbox"/>	Keyword	Intent	starbucks...	cafecoffe...	Volume	KD%	CPC	Com.	Results								
<input type="checkbox"/>	⊕ most expensive coffee ⌵	C I	79	94	8.1K	29 🟢	0.47	0.19	373M								
<input type="checkbox"/>	⊕ veg vihar ⌵	I	70	71	3.6K	27 🟢	0.00	0	5.5M								
<input type="checkbox"/>	⊕ ki coffee ⌵	C N	50	60	1.3K	47 🟡	0.00	0.01	595M								
<input type="checkbox"/>	⊕ starbucks instant coffee packets ⌵	I T	56	88	1.3K	46 🟡	0.41	1	5.2M								
<input type="checkbox"/>	⊕ kochi cafe ⌵	I N	76	64	1K	36 🟡	0.39	0.06	15.3M								
<input type="checkbox"/>	⊕ sipper coffee ⌵	T	43	86	880	29 🟢	0.00	0.04	3.2M								
<input type="checkbox"/>	⊕ cafe kochi ⌵	C	77	68	480	22 🟢	0.23	0.06	16.4M								
<input type="checkbox"/>	⊕ cafe mysore mumbai ⌵	I	94	64	390	42 🟡	0.00	0	6.2M								
<input type="checkbox"/>	⊕ cafes in hyderabad ⌵	C	96	95	390	28 🟢	0.57	0.06	7.4M								

iv. Create a table listing chosen keywords, volume, intent and KD.

Keyword Phrase	Monthly Volume	Keyword Difficulty (KD)	Intent
coffee shop near me	[volume]	[KD%]	Transactional
best coffee shops pokhara	[volume]	[KD%]	Commercial
how to open a coffee shop	[volume]	[KD%]	Informational
coffee shop menu ideas	[volume]	[KD%]	Informational
coffee shop software	[volume]	[KD%]	Commercial
buy coffee beans online	[volume]	[KD%]	Transactional
coffee shop interior design	[volume]	[KD%]	Informational
local coffee shop deals	[volume]	[KD%]	Commercial

coffee shop branding tips	[volume]	[KD%]	Informational
independent coffee shop tools	[volume]	[KD%]	Commercial

v. Explain the strategy behind choosing specific keywords you would target and why.

1. Volume vs. Difficulty Balance

Select keywords with substantial search volume but moderate or low Keyword Difficulty (KD) so your site—being newer—has a realistic chance to rank. Semrush's KD metric is robust and region-sensitive, giving more accurate estimates.

2. Targeting Across Intent Types

- Informational keywords (e.g., "how to open a coffee shop") help attract users early in the funnel, offering educational content like blog posts or guides.
- Commercial keywords (e.g., "best coffee shop menu ideas") align with users who are researching options—they're likely to engage with content offering inspiration or ideas.
- Transactional keywords (e.g., "coffee shop near me") signal readiness to act—these can be integrated into location-based pages or CTAs (contact/order).

This layered approach helps you capture a wider audience—inform, nurture, and convert.

3. Local and Niche Targeting

Since your café is based in Pune (for example), keywords like "coffee shop in Pune" or "best coffee shops in Pune" can help target local searchers with high intent. These often have lower competition but high value in local SEO.

4. Competitor Gap Insights

Using Semrush's Keyword Gap Tool, you can compare your domain to competitors and see where they rank for keywords you don't yet target. This reveals:

- Weak opportunities: keywords they rank for that you're not targeting.
- Missed: terms competitors rank higher for—even better if difficulty is moderate.
- Untapped: areas where competitors haven't capitalized yet.

C. Generate XML Sitemap

i. for any website of your choice using the website

<https://www.xml-sitemaps.com/>.

ii. For The Coffee Corner website, create:

a. XML Sitemap (sitemap.xml) manually

b. HTML Sitemap (sitemap.html)

iii. Ensure it includes:

a. Home page (index.html)

b. Menu page (can be dummy: menu.html)

c. Contact page (contact.html)

iv. Place sitemap.xml and sitemap.html in the root directory.

v. Validate XML sitemap using:

<https://www.xml-sitemaps.com/validate-xml-sitemap.html>

SOLUTION

i. For this we have used <https://www.starbucks.com> website to generate the sitemap from <https://www.xml-sitemaps.com>

The following is the sitemap generated

```
<?xml version="1.0" encoding="UTF-8"?>
<urlset
  xmlns="http://www.sitemaps.org/schemas/sitemap/0.9"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.sitemaps.org/schemas/sitemap/0.9
    http://www.sitemaps.org/schemas/sitemap/0.9/sitemap.xsd">
  <!-- created with Free Online Sitemap Generator www.xml-sitemaps.com -->

  <url>
    <loc>https://www.starbucks.com/</loc>
```


<lastmod>2025-08-13T09:50:17+00:00</lastmod>
<priority>1.00</priority>
</url>
<url>
<loc>https://www.starbucks.com/menu</loc>
<lastmod>2025-08-13T09:50:17+00:00</lastmod>
<priority>0.80</priority>
</url>
<url>
<loc>https://www.starbucks.com/rewards</loc>
<lastmod>2025-08-13T09:50:17+00:00</lastmod>
<priority>0.80</priority>
</url>
<url>
<loc>https://www.starbucks.com/gift</loc>
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<priority>0.80</priority>
</url>
<url>
<loc>https://www.starbucks.com/store-locator</loc>
<lastmod>2025-08-13T09:50:17+00:00</lastmod>
<priority>0.80</priority>
</url>
<url>
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<priority>0.80</priority>
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<loc>https://www.starbucks.com/account/create</loc>
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<url>
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<lastmod>2025-08-13T09:50:17+00:00</lastmod>
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</url>
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<priority>0.80</priority>
</url>
<url>
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<lastmod>2025-08-13T09:50:17+00:00</lastmod>
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</url>
<url>
<loc>https://www.starbucks.com/contact/</loc>
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</url>
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</url>
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<url>
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</url>
<url>
<loc>https://www.starbucks.com/about-us/business-ethics-and-compliance/</loc>
<lastmod>2025-08-13T09:50:17+00:00</lastmod>
<priority>0.64</priority>
</url>
<url>
<loc>https://www.starbucks.com/about-us/corporate-governance/</loc>

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<loc>https://www.starbucks.com/account/signin?ReturnUrl=%2Fcontact</loc>
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</url>
<url>

<loc>https://www.starbucks.com/account/signin?ReturnUrl=%2Fbusiness%2Flandlord-faq</loc>
<lastmod>2025-08-13T09:50:17+00:00</lastmod>
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<loc>https://www.starbucks.com/account/signout?ReturnUrl=%2Fbusiness%2Flandlord-faq</loc>
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</url>

<url>

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</url>

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<url>

<loc>https://www.starbucks.com/account/signout?ReturnUrl=%2Fabout-us%2Fcorporate-governance</loc>

<lastmod>2025-08-13T09:50:17+00:00</lastmod>

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</url>

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<loc>https://www.starbucks.com/account/signin?ReturnUrl=%2Frewards%2Fterms</loc>

<lastmod>2025-08-13T09:50:17+00:00</lastmod>

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</url>

<url>

<loc>https://www.starbucks.com/account/signout?ReturnUrl=%2Frewards%2Fterms</loc>

<lastmod>2025-08-13T09:50:17+00:00</lastmod>

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</url>

<url>

<loc>https://www.starbucks.com/terms/privacy-policy/</loc>

<lastmod>2025-08-13T09:50:17+00:00</lastmod>

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<lastmod>2025-08-13T09:50:17+00:00</lastmod>

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</url>

<url>

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<priority>0.41</priority>

</url>

<url>

<loc>https://www.starbucks.com/account/signout?ReturnUrl=%2Fterms%2Fprivacy-policy</loc>

<lastmod>2025-08-13T09:50:17+00:00</lastmod>

<priority>0.41</priority>

</url>

</urlset>

ii.a

Coffee website sitemap.xml created manually

<?xml version="1.0" encoding="UTF-8"?>

<urlset xmlns="http://www.sitemaps.org/schemas/sitemap/0.9">

<url>

<loc>https://www.example.com/index.html</loc>

<lastmod>2025-08-13</lastmod>

<changefreq>weekly</changefreq>

<priority>1.0</priority>

</url>

<url>

<loc>https://www.example.com/menu.html</loc>

<lastmod>2025-08-13</lastmod>

<changefreq>weekly</changefreq>

```
<priority>0.8</priority>
</url>
```

```
<url>
  <loc>https://www.example.com/contact.html</loc>
  <lastmod>2025-08-13</lastmod>
  <changefreq>monthly</changefreq>
  <priority>0.8</priority>
</url>
```

```
</urlset>
```

Coffee Corner website HTML Sitemap

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>HTML Sitemap - The Coffee Corner</title>
</head>
<body>
  <h1>Website Sitemap</h1>
  <ul>
    <li><a href="index.html">Home</a></li>
    <li><a href="menu.html">Menu</a></li>
    <li><a href="contact.html">Contact</a></li>
  </ul>
</body>
</html>
```

Please find the github link to the repository

<https://github.com/pandya-manan/coffee-corner.git>

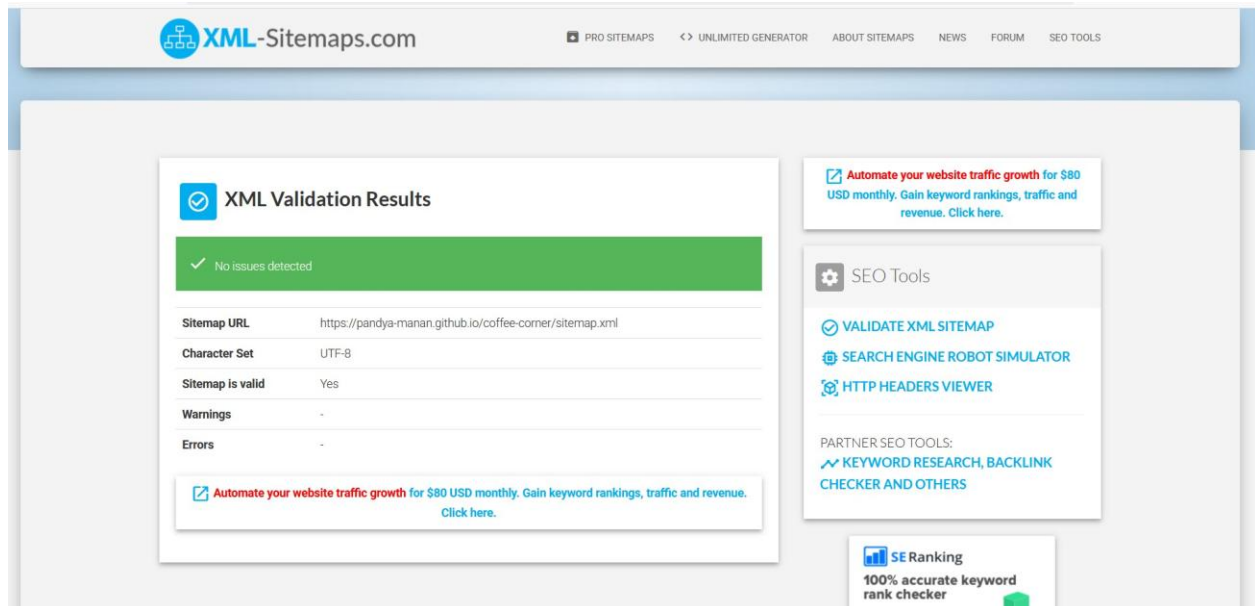
This is the link to where the website is hosted

<https://pandya-manan.github.io/coffee-corner/>

The sitemap is validated in the website

<https://www.xml-sitemaps.com/validate-xml-sitemap.html>

Below is the screen snip for the sitemap validation done after hosting the coffee site



D. Create robots.txt in the root directory.

i. Include the xml sitemap in robots.txt

ii. Allow search engines to crawl all pages except:

a. Admin pages (/admin/)

b. Test pages (/test/)

SOLUTION

Have added the robots.txt file as follows

User-agent: *

Disallow: /admin/

Disallow: /test/

Sitemap: <https://your-username.github.io/the-coffee-corner/sitemap.xml>

This is the result when it is deployed

Link to github repository: <https://github.com/pandya-manan/coffee-corner.git>

Link to the robots.txt file: <https://pandya-manan.github.io/coffee-corner/robots.txt>



E. Web page performance optimization

iii. Create an HTML page with coffee images using flexbox layout. Add a video about

the brewing of coffee.

iv. Perform optimizations: Perform compression of images using online image compression tools such as compression.io, enable lazy loading of images and video.

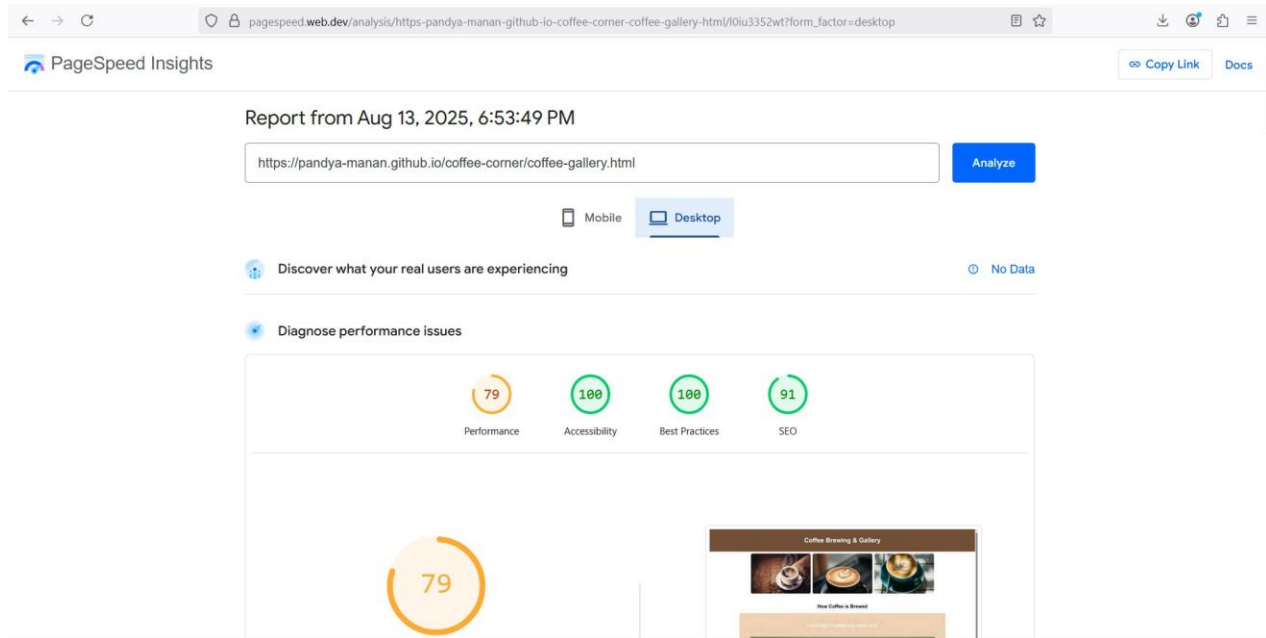
a. Run the optimized page through the Google PageSpeed Insights (pagespeed.web.dev) and Compare the core web vitals: LCP, INP and CLS before and after optimization.

SOLUTION

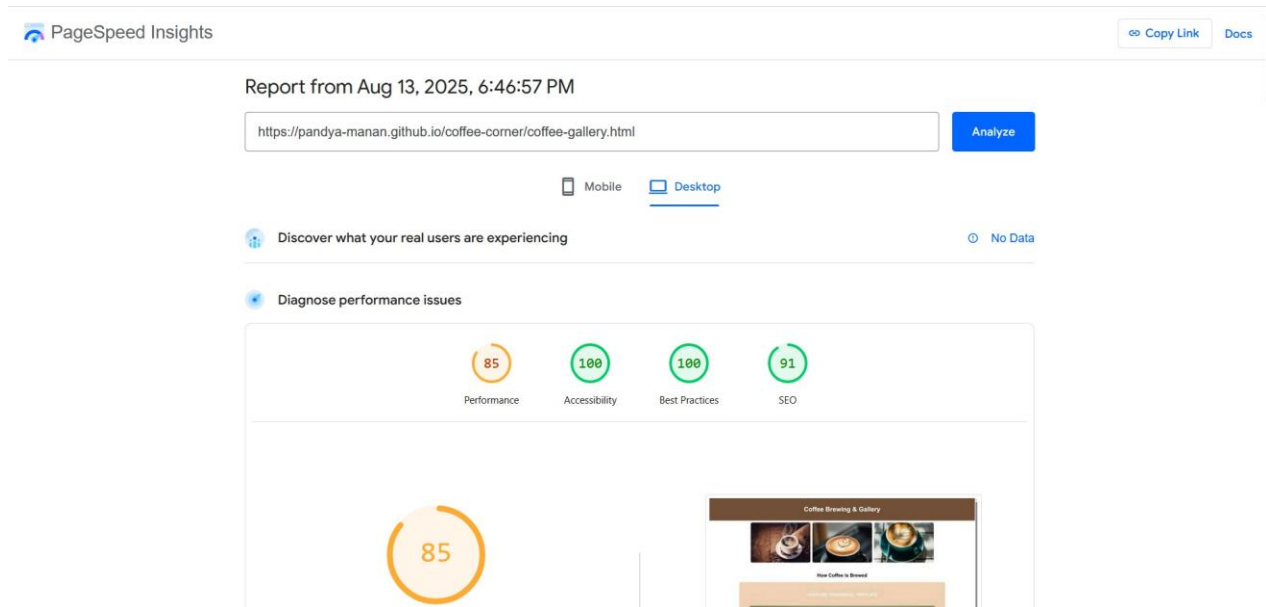
A new HTML page was created and was hosted online

<https://pandya-manan.github.io/coffee-corner/coffee-gallery.html>

Before Optimisation result



After Optimisation Result



Hence after compression of videos, images and thumbnails and using lazy loading, we get an optimised report for the website.

NOTE: The website was deployed using github pages