WEBTECH LAB-11

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Q1.

Website-WikiPedia, LeetCode, Krunker

https://www.wikipedia.org/

98	96	100	99	PWA
Performance	Accessibility	Best Practices	SEO	PWA

98

Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

▲ 0–49   ■ 50–89   ● 90–100

METRICS   Expand view

■ First Contentful Paint	● Largest Contentful Paint
2.0 s	**2.0 s**

● Total Blocking Time	● Cumulative Layout Shift
0 ms	**0**

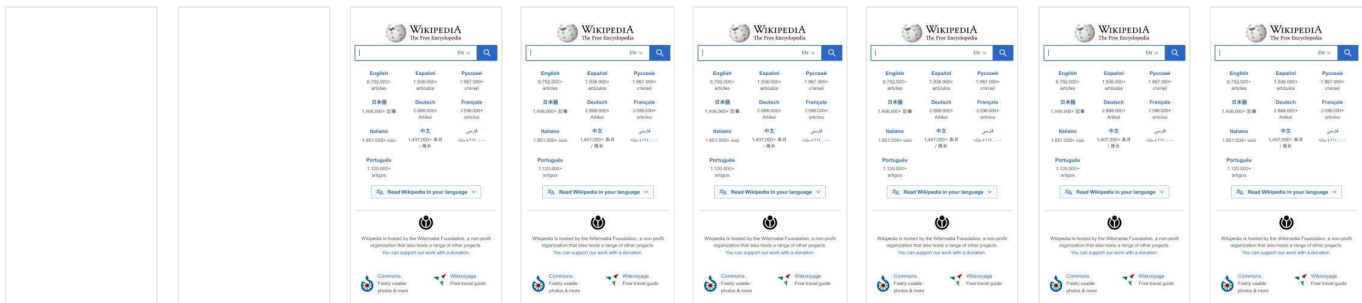| ● Speed Index	
2.3 s	

⊞ View Treemap

DIAGNOSTICS

98   96   100   99   PWA

■ Serve images in next-gen formats — Potential savings of 20 KiB   ⌄

■ Serve static assets with an efficient cache policy — 5 resources found   ⌄

■ Avoid an excessive DOM size — 997 elements   ⌄

○ Initial server response time was short — Root document took 170 ms   ⌄

○ Avoids enormous network payloads — Total size was 90 KiB   ⌄

○ Avoid chaining critical requests — 2 chains found   ⌄

○ JavaScript execution time — 0.0 s   ⌄

○ Minimizes main-thread work — 1.9 s   ⌄

○ Largest Contentful Paint element — 2,030 ms   ⌄

○ Avoid long main-thread tasks — 2 long tasks found   ⌄

○ Avoid non-composited animations — 1 animated element found   ⌄

More information about the performance of your application. These numbers don't [directly affect](#) the Performance score.

PASSED AUDITS (25)   Show

96

Accessibility

These checks highlight opportunities to [improve the accessibility of your web app](#). Automatic detection can only detect a subset of issues and does

not guarantee the accessibility of your web app, so [manual testing](#) is also
encouraged

98   96   100   99   PWA

NAMES AND LABELS

▲ Form elements do not have associated labels   ⌄

These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for
users of assistive technology, like a screen reader.

ADDITIONAL ITEMS TO MANUALLY CHECK (10)   Show

These items address areas which an automated testing tool cannot cover. Learn more in our guide on [conducting an
accessibility review](#).

PASSED AUDITS (24)   Show

NOT APPLICABLE (36)   Show

100

Best Practices

TRUST AND SAFETY

○ Ensure CSP is effective against XSS attacks   ⌄

PASSED AUDITS (14)   Show

98   96   100   99   PWA
                                                  —

NOT APPLICABLE (2)   Show

99

SEO

These checks ensure that your page is following basic search engine optimization advice. There are many additional factors Lighthouse does not score here that may affect your search ranking, including performance on [Core Web Vitals](). [Learn more about Google Search Essentials]().

MOBILE FRIENDLY

■ Tap targets are not sized appropriately — 94% appropriately sized tap targets   ⌄

Make sure your pages are mobile friendly so users don't have to pinch or zoom in order to read the content pages. [Learn how to make pages mobile-friendly]().

ADDITIONAL ITEMS TO MANUALLY CHECK (1)   Show

Run these additional validators on your site to check additional SEO best practices.

PASSED AUDITS (12)   Show

NOT APPLICABLE (1)   Show

98   96   100   99

PWA

These checks validate the aspects of a Progressive Web App. Learn what makes a good Progressive Web App.

⊕ INSTALLABLE

⚠ Web app manifest or service worker do not meet the installability requirements — 1 reason ⌄

★ PWA OPTIMIZED

⚠ Is not configured for a custom splash screen Failures: No manifest was fetched. ⌄

⚠ Does not set a theme color for the address bar.
   Failures: No manifest was fetched, No `<meta name="theme-color">` tag found. ⌄

● Content is sized correctly for the viewport ⌄

● Has a `<meta name="viewport">` tag with `width` or `initial-scale` ⌄

⚠ Manifest doesn't have a maskable icon No manifest was fetched ⌄

https://leetcode.com/

23	51	78	85	PWA
Performance	Accessibility	Best Practices	SEO	PWA

23

Performance

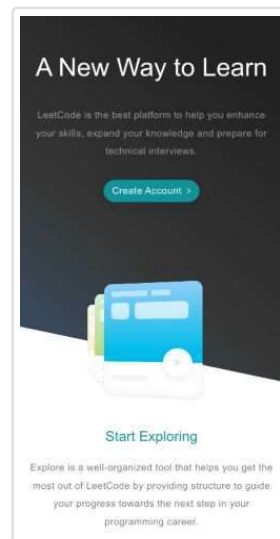Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

▲ 0–49   ■ 50–89   ● 90–100

METRICS   Expand view

▲ First Contentful Paint	▲ Largest Contentful Paint
14.2 s	**19.5 s**

▲ Total Blocking Time	■ Cumulative Layout Shift
1,400 ms	**0.167**

▲ Speed Index	
15.7 s	

⊞ View Treemap

DIAGNOSTICS

▲ Reduce unused CSS — Potential savings of 98 KiB   ⌄

▲ Reduce unused JavaScript — Potential savings of 1,916 KiB   ⌄

▲ Reduce initial server response time — Root document took 660 ms   ⌄

▲ Reduce JavaScript execution time — 6.8 s   ⌄

▲ Minimize main-thread work — 11.2 s   ⌄

▲ Reduce the impact of third-party code — Third-party code blocked the main thread for 1,450 ms ⌄

▲ Largest Contentful Paint element — 19,510 ms   ⌄

▲ Avoid large layout shifts — 2 layout shifts found   ⌄

🟧 Minify CSS — Potential savings of 2 KiB   ⌄

🟧 Serve images in next-gen formats — Potential savings of 26 KiB   ⌄

🟧 Enable text compression — Potential savings of 97 KiB   ⌄

🟧 Avoid serving legacy JavaScript to modern browsers — Potential savings of 63 KiB   ⌄

🟧 Avoid enormous network payloads — Total size was 3,870 KiB   ⌄

🟧 Serve static assets with an efficient cache policy — 41 resources found   ⌄

🟧 Ensure text remains visible during webfont load   ⌄

> **Warnings:** Lighthouse was unable to automatically check the `font-display` values for the origin
> https://assets.leetcode.com.

🟧 Image elements do not have explicit `width` and `height`   ⌄

○ Avoids an excessive DOM size — 434 elements   ⌄

○ Avoid chaining critical requests — 29 chains found   ⌄

○ Avoid long main-thread tasks — 20 long tasks found   ⌄

More information about the performance of your application. These numbers don't [directly affect](#) the Performance score.

PASSED AUDITS (18) Show

51

Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Automatic detection can only detect a subset of issues and does not guarantee the accessibility of your web app, so manual testing is also encouraged.

NAMES AND LABELS

⚠️ Image elements do not have `[alt]` attributes ⌄

⚠️ Select elements do not have associated label elements. ⌄

These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for users of assistive technology, like a screen reader.

BEST PRACTICES

⚠️ `[user-scalable="no"]` is used in the `<meta name="viewport">` element or the `[maximum-scale]` attribute is less than 5. ⌄

These items highlight common accessibility best practices.

CONTRAST

⚠️ Background and foreground colors do not have a sufficient contrast ratio. ⌄

These are opportunities to improve the legibility of your content.

INTERNATIONALIZATION AND LOCALIZATION

⚠ `<html>` element does not have a `[lang]` attribute   ⌄

These are opportunities to improve the interpretation of your content by users in different locales.

ADDITIONAL ITEMS TO MANUALLY CHECK (10)   Show

These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

PASSED AUDITS (8)   Show

NOT APPLICABLE (48)   Show

78

Best Practices

GENERAL

⚠ Uses deprecated APIs — 1 warning found   ⌄

⚠ Registers an `unload` listener   ⌄

○ Detected JavaScript libraries   ⌄

⚠ Missing source maps for large first-party JavaScript   ⌄

TRUST AND SAFETY

○   Ensure CSP is effective against XSS attacks   ⌄

PASSED AUDITS (11)   Show

NOT APPLICABLE (1)   Show

85

SEO

These checks ensure that your page is following basic search engine optimization advice. There are many additional factors Lighthouse does not score here that may affect your search ranking, including performance on [Core Web Vitals](#). [Learn more about Google Search Essentials](#).

CRAWLING AND INDEXING

🔺   Links are not crawlable   ⌄

To appear in search results, crawlers need access to your app.

CONTENT BEST PRACTICES

🔺   Image elements do not have `[alt]` attributes   ⌄

Format your HTML in a way that enables crawlers to better understand your app's content.

ADDITIONAL ITEMS TO MANUALLY CHECK (1)   Show

Run these additional validators on your site to check additional SEO best practices.

PASSED AUDITS (11)   Show

NOT APPLICABLE (1)   Show

As per **Chrome's updated Installability Criteria**, Lighthouse will be deprecating the PWA category in a future release. Please refer to the **updated PWA documentation** for future PWA testing.

PWA

PWA

These checks validate the aspects of a Progressive Web App. Learn what makes a good Progressive Web App.

⊕ INSTALLABLE

🔺 Web app manifest or service worker do not meet the installability requirements — 1 reason   ⌄

★ PWA OPTIMIZED

🔺 Is not configured for a custom splash screen Failures: No manifest was fetched.   ⌄

🔺 Does not set a theme color for the address bar.

    Failures: No manifest was fetched, No `<meta name="theme-color">` tag found.   ⌄

🟢 Content is sized correctly for the viewport   ⌄

🟢   Has a `<meta name="viewport">` tag with `width` or `initial-scale`   ⌄

🔺   Manifest doesn't have a maskable icon No manifest was fetched   ⌄

ADDITIONAL ITEMS TO MANUALLY CHECK (3)   Show

These checks are required by the baseline [PWA Checklist](#) but are not automatically checked by Lighthouse. They do not affect your score but it's important that you verify them manually.

📅 Captured at Apr 9, 2024, 4:59 PM   🖥 Emulated Desktop with Lighthouse   👥 Single page session
   GMT+5:30   11.5.0

⏱ Initial page load   📶 Unknown   🌐 Using HeadlessChromium
                                                                                             122.0.6261.94 with lr
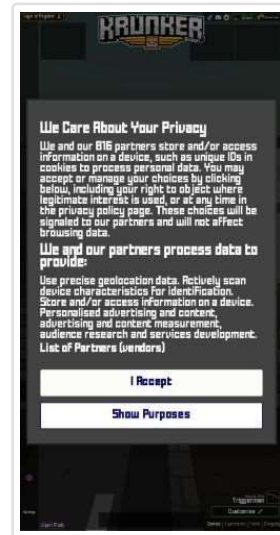
Generated by **Lighthouse** 11.5.0 | File an issue

https://krunker.io/

32	86	52	69	PWA
Performance	Accessibility	Best Practices	SEO	PWA

32

Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

▲ 0–49　　■ 50–89　　● 90–100

METRICS
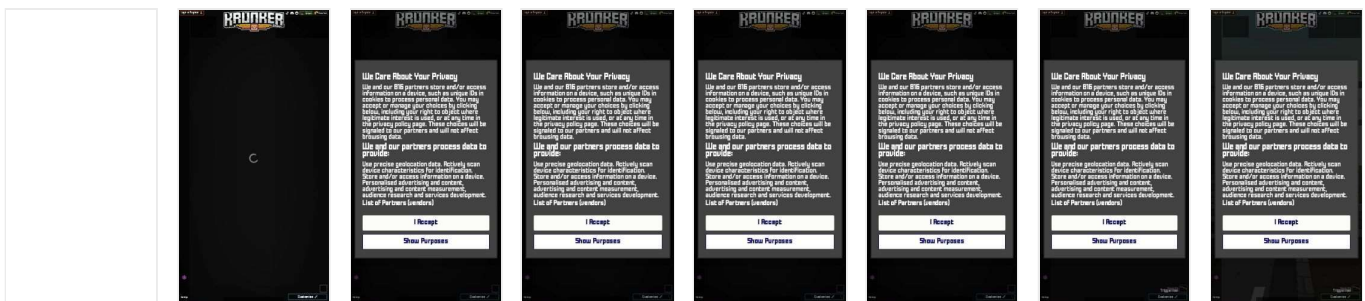
Expand view

■ First Contentful Paint	▲ Largest Contentful Paint
2.4 s	17.6 s

▲ Total Blocking Time	● Cumulative Layout Shift
14,670 ms	0.007

▲ Speed Index	
21.3 s	

▦ View Treemap

DIAGNOSTICS

▲ Eliminate render-blocking resources — Potential savings of 980 ms   ⌄

▲ Defer offscreen images — Potential savings of 840 KiB   ⌄

▲ Reduce unused CSS — Potential savings of 81 KiB   ⌄

▲ Reduce unused JavaScript — Potential savings of 1,322 KiB   ⌄

▲ Serve images in next-gen formats — Potential savings of 1,125 KiB   ⌄

Warnings:

- Unable to locate resource /textures/cardb_0.png?build=ekIORBM82…
- Unable to locate resource /img/vic.png
- Unable to locate resource /52286/texture.png
- Unable to locate resource /textures/stack_0.png?build=ekIORBM82…
- Unable to locate resource /img/def.png
- Unable to locate resource /textures/cone_0.png?build=ekIORBM82…

▲ Avoid an excessive DOM size — 1,239 elements   ⌄

▲ Reduce JavaScript execution time — 32.0 s   ⌄

▲ Minimize main-thread work — 62.8 s   ⌄

▲ Reduce the impact of third-party code — Third-party code blocked the main thread for 4,620 ms ⌄

▲ Largest Contentful Paint element — 17,570 ms   ⌄

■ Properly size images — Potential savings of 184 KiB   ⌄

■ Enable text compression — Potential savings of 474 KiB   ⌄

■ Use video formats for animated content — Potential savings of 58 KiB   ⌄

■ Remove duplicate modules in JavaScript bundles — Potential savings of 9 KiB   ⌄

■ Avoid serving legacy JavaScript to modern browsers — Potential savings of 63 KiB ⌄

■ Avoid enormous network payloads — Total size was 8,654 KiB   ⌄

■ Serve static assets with an efficient cache policy — 75 resources found   ⌄

■ Ensure text remains visible during webfont load   ⌄

■ Does not use passive listeners to improve scrolling performance   ⌄

■ Image elements do not have explicit `width` and `height`   ⌄

○ Initial server response time was short — Root document took 310 ms   ⌄

○ Avoid chaining critical requests — 18 chains found   ⌄

○ User Timing marks and measures — 6 user timings   ⌄

○ Avoid large layout shifts — 2 layout shifts found   ⌄

○ Avoid long main-thread tasks — 20 long tasks found   ⌄

○ Avoid non-composited animations — 2 animated elements found   ⌄

More information about the performance of your application. These numbers don't [directly affect](#) the Performance score.

PASSED AUDITS (11)   Show

86

Accessibility

These checks highlight opportunities to [improve the accessibility of your web app](#). Automatic detection can only detect a subset of issues and does not guarantee the accessibility of your web app, so [manual testing](#) is also encouraged.

NAMES AND LABELS

▲ Image elements do not have `[alt]` attributes   ⌄

These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for users of assistive technology, like a screen reader.

BEST PRACTICES

▲ `[user-scalable="no"]` is used in the `<meta name="viewport">` element or the `[maximum-scale]` attribute is less than 5.   ⌄

These items highlight common accessibility best practices.

ADDITIONAL ITEMS TO MANUALLY CHECK (10)   Show

These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

PASSED AUDITS (18)   Show

NOT APPLICABLE (41)   Show

52

Best Practices

GENERAL

▲ Uses deprecated APIs — 1 warning found   ⌄

▲ Uses third-party cookies — 4 cookies found   ⌄

▲ Registers an `unload` listener   ⌄

▲   Browser errors were logged to the console   ⌄

▲   Issues were logged in the `Issues` panel in Chrome Devtools   ⌄

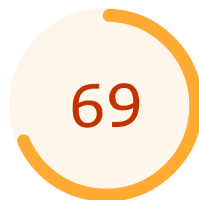◯   Detected JavaScript libraries   ⌄

TRUST AND SAFETY

◯   Ensure CSP is effective against XSS attacks   ⌄

PASSED AUDITS (9)   Show

NOT APPLICABLE (1)   Show

69

SEO

These checks ensure that your page is following basic search engine
optimization advice. There are many additional factors Lighthouse does not
score here that may affect your search ranking, including performance on
[Core Web Vitals](). [Learn more about Google Search Essentials]().

CONTENT BEST PRACTICES

▲   Links do not have descriptive text — 1 link found   ⌄

▲   Image elements do not have `[alt]` attributes   ⌄

Format your HTML in a way that enables crawlers to better understand your app's content.

CRAWLING AND INDEXING

⚠️ **Links are not crawlable**   ⌄

To appear in search results, crawlers need access to your app.

MOBILE FRIENDLY

⚠️ **Document doesn't use legible font sizes** — **7.63% legible text**   ⌄

Make sure your pages are mobile friendly so users don't have to pinch or zoom in order to read the content pages. [Learn how to make pages mobile-friendly](#).

ADDITIONAL ITEMS TO MANUALLY CHECK (1)   Show

Run these additional validators on your site to check additional SEO best practices.

PASSED AUDITS (9)   Show

NOT APPLICABLE (1)   Show

As per **[Chrome's updated Installability Criteria](#)**, **Lighthouse will be deprecating the PWA category in a future release. Please refer to the [updated PWA documentation](#) for future PWA testing.**

PWA

These checks validate the aspects of a Progressive Web App. [Learn what makes a good Progressive Web App](#).

⊕ INSTALLABLE

● Web app manifest and service worker meet the installability requirements ⌄

★ PWA OPTIMIZED

● Configured for a custom splash screen ⌄

● Sets a theme color for the address bar. ⌄

● Content is sized correctly for the viewport ⌄

● Has a `<meta name="viewport">` tag with `width` or `initial-scale` ⌄

▲ Manifest doesn't have a maskable icon ⌄

ADDITIONAL ITEMS TO MANUALLY CHECK (3)   Hide

○ Site works cross-browser ⌄

○ Page transitions don't feel like they block on the network ⌄

○ Each page has a URL ⌄

These checks are required by the baseline **PWA Checklist** but are not automatically checked by Lighthouse. They do not affect your score but it's important that you verify them manually.

📅 Captured at Apr 9, 2024, 5:04 PM GMT+5:30

💻 Emulated Desktop with Lighthouse 11.5.0

⏱ Initial page load

📶 Unknown

👥 Single page session

🔰 Using HeadlessChromium 122.0.6261.94 with lr

Generated by **Lighthouse** 11.5.0 | File an issue

Q2.

MongoDB.
Create Employee

Employee Records

Name	Position	Level	Action

MongoDB.
Create Employee

Create/Update Employee Record

Employee Info
This information will be displayed publicly so be careful what you share.

Name

Marc

Position

IDD student

○ Intern ○ Junior ● Senior

Save Employee Record

MongoDB.
Create Employee

Employee Records

Name	Position	Level	Action
Marc	IDD student	Senior	Edit Delete