**W10 Prepare – Q/A AI**

**Search Engine Optimization**

**Q: What is search engine optimization (SEO)?**

A: SEO is the practice of improving your website's ranking in search engine results pages (SERPs). This involves making your site more relevant and user-friendly for both search engines and human visitors.

**Q: How can I improve the SEO of a webpage?**

A: There are three main aspects to consider:

* **On-page SEO:** Optimize your webpage content with relevant keywords, high-quality information, and proper title tags and descriptions.
* **Technical SEO:** Ensure your website structure is clear and crawlable for search engines, focusing on mobile-friendliness and fast loading times.
* **Off-page SEO:** Build backlinks from high-authority websites to your webpage to increase its trustworthiness and ranking potential.

**Q: What are backlinks?**

A: Backlinks are links on other websites that point to your webpage. They act like endorsements from other sources and can improve your SEO. There are various ways to earn backlinks, such as guest posting, industry listings, and creating high-quality content.

**Q: What is "link juice" and where does the term come from?**

A: Link juice is an informal term used in SEO to describe the ranking power or authority that passes from one webpage to another through a link. It's a metaphor to represent how backlinks from well-established websites can influence the SEO of the linked webpage. The exact origin of the term is unclear, but it likely emerged among early SEO professionals.

**Q: How can we design websites to be easier for search engines to index?**

A: Several technical aspects influence how search engines index your website:

* **Clear website structure:** Organize your website with a logical hierarchy and internal linking for easy navigation by search engine crawlers.
* **Technical SEO:** Use clean code, structured data markup, and a robots.txt file to provide search engines with clear instructions for crawling and indexing.
* **Usability and Performance:** Prioritize mobile-friendliness, fast loading times, and minimize errors to ensure a smooth experience for search engines and users.

**JavaScript Sorting & Filtering**

**Q: How can I sort an array of objects in JavaScript?**

A: You can use the sort() method with a custom comparison function to define the sorting criteria for objects within the array. This function compares two objects and returns a value that determines their order in the sorted array.

**Q: How does the comparison function work for sorting objects?**

A: The comparison function takes two objects from the array and returns a negative number if the first object should come before the second, a positive number if the second object should come before the first, and zero if they are considered equal.

**Q: Can I sort by multiple properties in the object?**

A: Yes, you can extend the comparison function to include logic for sorting by multiple properties. For example, you can sort by name first and then by age within the same name (for duplicates).

**Q: How do I achieve case-insensitive sorting?**

A: To sort by a property like name in a case-insensitive manner, you can use the localeCompare() method within your comparison function.

**Q: How can I sort in descending order?**

A: To reverse the sorting order (descending), you can simply multiply the return value of the comparison function by -1. However, the provided code snippet uses a ternary operator which doesn't involve multiplication.

**Q: What does the question mark and colon in the sorting function actually do?**

A: The question mark and colon (? :) in the code (a.name < b.name ? 1 : -1) represent a ternary operator, a shorthand way to write an if-else statement in a single line. It determines the sorting order based on the alphabetical comparison of object names. It doesn't perform multiplication.