

CS193H

High Performance Web Sites

Midterm Exam

Student:

SUID:

SCPD: Yes / No

Date:

Instructions: Time limit for this test is 50 minutes. This is a closed book test (no references allowed). Write your answers to each question in the space provided.

List the 11 rules covered so far:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.

12. In terms of page loading, define "backend" and "frontend"? Give the typical percentage of page load time spent on each.

13. Give three reasons why focusing on the frontend is the place to start.

14. What's going on during the white gaps in a packet sniffer?

15. With regard to browser caching, what are the two response headers used to set an expiration date?

16. Describe 3 differences between them.

17. What are the two request headers that can be used to determine if a cached resource is valid (i.e., used as part of a Conditional GET request)? If the resource is valid, what status code does the web server return?

18. How many connections per hostname is suggested in the HTTP spec? Do the five most popular browsers follow this recommendation?

19. Give three techniques for reducing the number of HTTP requests in the page without reducing the content on the page?

20. Describe a situation where concatenating multiple stylesheets together could actually result in a page that renders more slowly in IE.

21. Name three potential drawbacks to using a CDN, and a way to mitigate these drawbacks.

22. In what way(s) do scripts block a web page?

23. Name two browsers (including major version #) that support parallel script loading?

24. What are two workarounds to the problems caused by CSS expressions?

25. What are three places where DNS resolutions are cached?

26. How much does gzip compression typically reduce transfer sizes?

27. Of these resource types, list the ones that should be gzipped: html, javascript, css, gif, jpg, png, Flash, json, xml

28. Describe how loading stylesheets at the bottom of the page affects page rendering differently in IE vs. Firefox.

29. With regard to JavaScript and CSS, what are two techniques for achieving the speed of inlining and the benefits of caching external files?

30. How can "double definition" be a problem when using these techniques, and how could you work around it?

31. What are three drawbacks to obfuscation?

32. What's an explanation for why sites would redirect from blah.com to www.blah.com?

33. Give five common uses of redirects.