

Data Visualization: Tables and Charts

A table is an effective method for presenting data when the precise values matter, whereas figures are better at illustrating general trends. Still, tables must be designed effectively.

Consider the following tables. Which table is most effective at helping you answer the question:

Which browser loads a new page the fastest?

Table 1

Browser performance on 9 different tasks

Task	Chrome 31	Firefox 25	IE 11	Opera 17	Safari 5.1
Cold start	11.35s	3.37s	3.66s	11.98s	7.82s
Non-cold start	0.98s	1.40s	0.01s	4.10s	0.52s
Page load time (non-cached load)	3.869s	11.091s	3.588s	3.526s	6.272s
Page load time (reload from cache)	1.638s	5.179s	1.966s	1.685s	3.354s
Base memory usage (blank tab)	99.5mb	49.1mb	29.5mb	91.7mb	35.0mb
Memory Usage (10 open tabs)	423.1mb	163.1mb	259.0mb	308.6mb	224.7mb
HTML 5 Compliance	93%	82%	70%	88%	56%
CSS3 Compliance	57%	53%	57%	58%	45%
JavaScript score	213.88	183.12	165.33	200.03	137.64

Table 2

Browser performance on different tasks

Task	Chrome 31	Firefox 25	IE 11	Opera 17	Safari 5.1
Startup speed (in seconds)					
Cold start	11.4	3.4	3.7	12.0	7.8
Non-cold start	1.0	1.4	0.0	4.1	0.5
Page load speeds (in seconds)					
Non-cached	3.9	11.1	3.6	3.5	6.3
Reload from cache	1.6	5.2	2.0	1.7	3.4
Memory Usage (in megabytes)					
Blank tab	99.5	49.1	29.5	91.7	35.0
10 open tabs	423.1	163.1	295.0	308.6	224.7
Compliance (in percent)					
HTML 5	93%	82%	70%	88%	56%
CSS 3	57%	53%	57%	58%	45%

Table 2 uses formatting so the reader can read or scan the information efficiently.
How? **Just remember CAG.**

CAG - Clear, Align, Group

- **Clear** non-data ink (i.e. remove gridlines, move units into the header)
- **Align** decimal places so the reader can easily scan your table
- **Group** data to highlight a trend or tell a certain “story”

Why is **Table 1** more difficult to read? Overall, this is something of a “data dump,” with all the data thrown at the reader.

Excessive gridlines inhibit quick scanning of the data

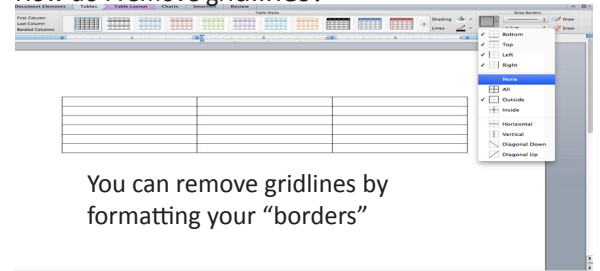
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Misaligned decimal points make it difficult to compare the values

Inconsistent numbers of digits after a decimal point makes comparison difficult

Inclusion of units within each cell adds excess information for the reader

How do I remove gridlines?



Let’s examine the reasons why **Table 2** is more effective.

Task					
Chrome 31 Firefox 25 IE 11 Opera 17 Safari 5.1					
Startup speed (in seconds)					
Cold start	11.4	3.4	3.7	12.0	7.8
Non-cold start	1.0	1.4	0.0	4.1	0.5
Page load speeds (in seconds)					
Non-cached	3.9	11.1	3.6	3.5	6.3
Reload from cache	1.6	5.2	2.0	1.7	3.4
Memory Usage (in megabytes)					
Blank tab	99.5	49.1	29.5	91.7	35.0
10 open tabs	423.1	163.1	295.0	308.6	224.7
Compliance (in percent)					
HTML 5	93%	82%	70%	88%	56%
CSS 3	57%	53%	57%	58%	45%

Non-data ink is **cleared** so scanning down columns is less inhibited

Task data are **grouped** to highlight a trend

Decimal points **align**
Number of digits following the decimal point are **rounded** consistently

Units are given in task descriptions (**cleared** from cells)