Assignments Due

- By now you should have read the course book through Section 5.4.
- Wednesday, 14 September (beginning of class): Problem Set 2
- Friday, 16 September: Read The Information Chapters 4 and 10.
- Monday, 19 September: Read course book through the end of Chapter 6.

Upcoming Help Schedule (all office hours are now in Rice Hall)

- Today: noon-1:30pm (Kristina, Rice 1st); 1:15-2pm (Dave, Rice 507)
- Tuesday: 11am-noon (Dave, Rice 507); 5-8pm (Valerie/Jonathan, Rice 507)

Notes and Questions

Define a procedure, table-lookup, that takes as inputs a table and a key. If the table contains an entry (key . value), the output is value. If there is no entry whose first part matches key, the output is false.

What is a hash table?
compute-hash: \textit{Key, Size → Number}

Maps a key (which could be any value) and a table size to a number between 0 and \textit{Size} – 1. This is the position in the table where the \textit{Key} should be stored in the table.

\textbf{string->list: \textit{String → List of Characters}}

Takes a string (e.g., “hello”) as input, and outputs a list of the characters in that string (e.g., (list #\h #\e #\l #\l #\o)).

\textbf{format: \textit{String, zero or more values → String}}

Takes a formatting string and zero or more values and outputs a string. The format string can include special formatting markers such as “~a” (which takes the next value in the inputs and formats it as a string) and “~n” (which creates a new line).

\begin{verbatim}
(define (compute-hash key size)
    (modulo (
        sum-chars
        (string->list (format "~a" key))) size))
\end{verbatim}

Define a procedure, \textbf{sum-chars}, that takes as input a list of characters, and outputs the sum of all the character values (as converted by \textbf{char->integer}) in the list.