Cookies

* Cookies are small pieces of data stored in the browser for a website. 'Small' in this context means less than 4 kilobytes, and in practice, typically only a hundred bytes.
* Cookies are really commonly used for the kinds of temporary information that needs to be stored by the browser.
* A good example of this type of information is whether you are logged into a particular website.
* You can generally save up to about 20 cookies per website. This is determined by the browser.
* We have already said that cookies must be less than 4 kilobytes.
* Another limitation is that a cookie must be associated with a particular domain. A cookie for udacity.com is only sent to udacity.com, and udacity.com can only set cookies for udacity.com.

Good Uses for Cookies Quiz

What are good uses of cookies?

* Storing login information.
* Storing small amounts of data to avoid hitting a db.
* Storing user preference information.
* Tracking you for ads.

Cookie Headers

* Cookies are sent in HTTP headers.
* When a server wants to send a cookie to your browser, it sends an HTTP response header that looks something like this:

Set-Cookie: user\_id = 12345

* The Set-Cookie header will set the cookie named user\_id to the value 12345. If the server wants to send multiple cookies, it simply needs to send multiple Set-Cookie headers:

Set-Cookie: user\_id = 12345

Set-Cookie: last\_seen = Dec 25 1985

Hashing

* Hashing is a technique that we can use to verify the legitimacy of our data.
* A hash is a function, let's call it H(), which when applied to a piece of data, x, returns a fixed-length bit-string, y:

H(x) → y

x is data

y is fixed-length bit-string

x can be of any size. y can be of arbitrary, fixed length, but, depending on the algorithm used, y is usually on the order of 32 - 256 bits long (certainly with the common algorithms that we will be dealing with).