CSE 154: Web Programming

Final Exam "Cheat Sheet"

HTML

Tags Used in the <head> Section

Tag	Description
<title> **text** </title>	title shown on page tab
<meta **attribute="value"** ... />	page metadata
<link href="**url**" type="text/css" rel="stylesheet" />	links to a CSS style sheet
<script src="**url**"></script>	link to JavaScript code
<!-- **comments** -->	comment (can appear in head or body)

Tags Used in the <body> Section

Tag	Display	Description
text	Block	paragraph
text **text** ... **text**	Block	(h1 for largest to h6 for smallest)
<hr />	Block	horizontal rule (line)
 	Block	line break
 text 	Block	anchor (link)
	Inline-Block	image
text	Inline	emphasis (italic)
text	Inline	strong emphasis (bold)
    text **text** **nested item** **nested item** 	Block	ordered (ol) and unordered (ul) list; list item (li)

Tags Used in the <body> Section (Continued)

Tag	Display	Description
<dl> <dt> **term 1** </dt> <dd> **description 1** </dd> <dt> **term 2** </dt> <dd> **description 2** </dd> </dl>	Block	definition list (dl); term (dt), and its description (dd)
<blockquote> **text** ... </blockquote>	Block	block-level quotation
<q> **text** </q>	Inline	inline-level quotation
<code> **text** </code>	Inline	computer code (monospace)
<pre> **text** </pre>	Inline	pre-formatted **text** (preserves whitespace)
<table> <caption> **text** </caption> <tr> <th> **heading 1** </th> <th> **heading 2** </th> </tr> <tr> <td> cell 1 </td> <td> cell 2 </td> </tr> ... </table>	Block	table of data (table) description of table (caption) table row (tr) table heading cell (hr) normal table cell (td)
...	Block	block-level section of a page
...	Inline	inline-level section of a page

HTML5 Semantic Grouping Tags

Tag	Display	Description
<header>	Block	Container for a header of a document
<footer>	Block	Container for a footer of a document
<article>	Block	A standalone piece of content (e.g., entire blog post including title, author, etc.)
<section>	Block	A piece of content that is part of another (e.g., a chapter section of a reading)
<aside>	Block	Defines some content aside from the content it is placed in (e.g., a sidebar in an article)
<main>	Block	Specifies the main content of a document. The content inside should be unique to the document and not contain content that is repeated across pages (e.g., sidebars, nav links, search bars, etc.)

HTML Input Tags

Note that input tags are inline tags.

Tag	Display	Description

`<button type="`**type**`">`
  content
`</button>`
	Inline	clickable button
		type can be `submit, reset, button`

`<input type="`**type**`" name="`**name**`">`
  content
`</input>`
	Inline	form input tag
		type can be `text, number, submit, reset, checkbox, radio, file, etc.`

`<textarea rows="`**num**`" cols="`**num**`">`
initial text
`</textarea>`
	inline	multi-line **text** input box

`<label>` **text** `</label>`	inline	clickable **text** label around a form control

`<select>`
  `<option>` **text** `</option>`
  `<option>`
  `<optgroup label="text">`
  `<option>` **text** `</option>`
  `<option>` **text** `</option>`
  `</optgroup>`
  `...`
`</select>`
	inline	drop-down selection box (`select`);
		each option within the box (`option`);
		a labeled group of options (`optgroup`);

`<fieldset>`
  `<legend>` **text** `</legend>` content
`</fieldset>`
	block	a grouped set of form fields with a legend

HTML Entities Reference

Result	Description	Entity Name
	non-breaking space	` `
<	less than	`&lt;`
>	greater than	`&gt;`
&	ampersand	`&amp;`
©	copyright	`&copy;`

CSS

For the following property and value tables, anything *emphasized* represents values that should be replaced with specific units (e.g., *length* should be replaced with a px, pt, or em for many properties, and *color* should be replaced with a valid color value such as a hex or rgb code).

A use of | refers to separation of possible values (where you cannot provide two of these possible values for one property) and [value value value] refers to a grouping of possible values that can optionally be used together (e.g., *[h-shadow v-shadow blur spread color]* for box-shadow).

Selector Types

Name	Description	Example
Universal	Any element	`* { font: 10pt Arial; }`
Element	Any element of a given type	`h1 { text-decoration: underline; }`
Grouping	Multiple elements of different types	`h1, h2, h3 { color: purple; }`
Class	Elements with the given class name	`.example { text-decoration: underline; }`
Id	Single element with the given id	`#example { text-decoration: overline; }`
Descendant	Elements that are children at any level of another specified element	`#example h1 { text-decoration: underline; }`
Child	Elements that are direct children of another specified element	`#example > p { font-weight: bold; }`
Attribute	Elements that have the specified attribute	`input[selected]` - inputs that have the selected attribute `input[name='test']` - inputs that have a name 'test'

Background Styles

Property	Values
background-attachment	scroll | fixed
background-color	*color* | transparent
background-image	*url* | none
background-origin	border-box | padding-box | content-box
background-position	top left | top center | top right | center left | center center | center right | bottom left | bottom center | bottom right [*x-%* *y-%*] | [*x-pos* *y-pos*]
background-size	*length* | *%* | auto | cover | contain
background-repeat	repeat | repeat-x | repeat-y | no-repeat
background-attachment	scroll | fixed

Border Styles

Note: Replace '*' with any side of the border (top, right, left, bottom) for the desired effect.

Example style: '`border: 2px solid red`' applies a solid red border with a width of 2px to all four sides of the element, while '`border-left: 2px solid red`' only applies that border to the left border'.

Property	Values

`border`, `border-*` (shorthand)	`border-width`, `border-*-width`
	`border-style`, `border-*-style`
	`border-color`, `border-*-color`

`border-width`, `border-*-width`	`thin` | `medium` | `thick` | *length*
`border-style`, `border-*-style`	`none` | `hidden` | `dotted` | `dashed` | `solid` | `double` | `groove` | `rigid` | `inset` | `outset`
`border-color`, `border-*-color`	*color*
`box-shadow`	`none` | `inset` | [*h-shadow v-shadow blur spread color*]
`border-radius`	*length*

Font and Text Styles

Property	Values
`font-style`	`normal` | `italic` | `oblique` | `inherit`
`font-family`	*fontname*
`font-size`	*length* | *%*
`font-weight`	`normal` | `bold` | `inherit`
`text-align`	`left` | `right` | `center` | `justify`
`text-decoration`	`none` | [`underline overline line-through blink`]
`text-shadow`	`none` | [*color length*]
`letter-spacing`, `word-spacing`	`normal` | *length* | *%*
`text-indent`	*length* | *%*
`text-transform`	`none` | `capitalize` | `uppercase` | `lowercase`
`list-style-type`	`none` | `asterisks` | `box` | `check` | `diamond` | `disc` | `hyphen` | `square` | `decimal` | `lower-roman` | `upper-roman` | `lower-alpha` | `upper-alpha` | `lower-greek` | `upper-greek` | `lower-latin` | `upper-latin` | `footnotes`
`list-style-image`	`none` | *url*

Color Values

Value	Description
`colorname`	standard name of color, such as red, blue, purple, etc.
`rgb(redvalue, greenvalue, bluevalue)`	Example: red = rgb(255, 0, 0) or red = rgb(100%, 0, 0)
`#RRGGBB`	Example: red = #FF0000

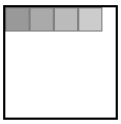
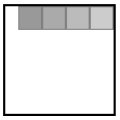
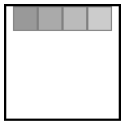
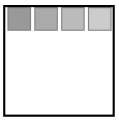
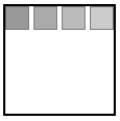
Box Model

Property	Values
`float`	`left` | `right` | `none`
`height`, `width`	`auto` | *`length`* | *`%`*
`min-height`, `max-height` `min-width`, `max-width`	`none` | *`length`* | *`%`*
`margin`, `margin-*`	`auto` | *`length`* | *`%`*
`padding`, `padding-*`	*`length`* | *`%`*
`display`	`none` | `inline` | `block` | `inline-block` | `flex` | `list-item` | `compact` | `table` | `inline-table`
`overflow`, `overflow-x`, `overflow-y`	`visible` | `hidden` | `scroll` | `auto` | `no-display` | `no-content`
`clear`	`left` | `right` | `both` | `none`

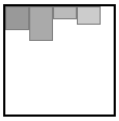
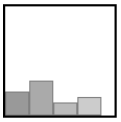
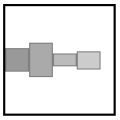
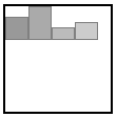
Flex Box

(on next page)

Property	Values	Element Type	Description
`display`	`flex`	Flex Container	Sets all children to become 'flex-items'

`justify-content`	`flex-start`
	`flex-end`
	`center`
	`space-around`
	`space-between`
		Flex container	Indicates how to position the flex-items in the parent container
			 
			 
			 
			 
			 

`flex-direction`	`row` | `row-reverse` | `column` | `column-reverse`	Flex container	Indicates if the container flows horizontally (`row`) or vertically (`column`)

`align-items`	`stretch` (default)
	`flex-start`
	`flex-end`
	`center`
	`baseline`
		Flex container	Indicates how to space the items inside the container along the cross axis
			 
			 
			 
			 

`flex-basis`	`auto` (default) | *length* | *%*	Both	Specifies the default size of an element before the extra space is distributed among the flex-items
`order`	*number*	Flex item	Specifies the order in which the element appears in the flex container (by default, flex items are laid out in the source order)
`align-self`	`flex-end` | `flex-start` | `center` | `baseline` | `stretch` (default)	Flex item	Indicates where to place this specific item along the cross axis

JavaScript

Window Methods and Properties

Method/Property	Description
`document`	Returns a reference to the document contained in the window
`getComputedStyle(element)`	Returns an object that reports the values of all CSS properties of an element after applying active stylesheets and resolving any basic computation those values may contain

Document Methods and Properties

Method/Property	Description
`getElementById(id)`	Returns a DOM object whose id property matches the specified string
`getElementsByClassName(cn)`	Returns an array-like object of all elements which have all of the given class names
`getElementsByName(name)`	Returns an collection of all elements which have all of the given name
`querySelector(sel)`	Returns the first DOM element that matches the specified selector, or group of selectors. If no matches are found, null is returned
`querySelectorAll(sel)`	Returns a list of the document's elements that match the specified group of selectors.
`getElementsByTagName(name)`	Returns a `NodeList` containing all elements with the specified tag name
`createElement(elType)`	Creates and returns an Element node
`createTextNode(data)`	Creates and returns a Text node with the given data

DOM Element Methods and Properties

Method/Property	Description
`children`	Returns a collection of an element's child elements
`parentNode`	Returns the parent node of an element
`classList`	Returns the class name(s) of an element
`className`	Sets or returns the value of the class attribute of an element
`appendChild(child)`	Adds a new child node, to an element as the last child node
`addEventListener(event, fn)`	Attaches an event handler to the specified element
`getAttribute(attr)`	Returns the specified attribute value `attr` of an element node
`innerHTML`	Sets or returns the content of an element
`innerText`	Sets or returns the text content of the specified node
`id`	Sets or returns the value of the id attribute of an element
`removeChild(child)`	Removes a child node from an element

Other DOM Element Properties

Recall that if you have an HTML element on your page that has attributes, you can set those properties through JavaScript as well. For instance if your

```
<img id="dogtag" src="img/doggie.jpg" alt="My Cute Dog" />
```

Your could do the following in your JavaScript code (using the $ alias for `document.getElementById`):

```
$("dogtag").alt = "My really cute dog";
```

Example DOM Element attributes include (other than `src`, and `alt` above) are:

Property	Description
`disabled`	Whether or not this DOM element is disabled on the page
`value`	The value of the value attribute of a text field
`name`	The value of the name attribute of a a form element
`href`	The href for a link or a tag

DOM Element.classList Methods and Properties

Method/Property	Description
`add(class)`	Adds specified class values. These values are ignored if they already exist in the list
`remove(class)`	Removes the specified class value
`toggle(class)`	Toggles the listed class value. If the class exists, then removes it and returns false, if it did not exist in the list add it and return true
`contains(class)`	Returns true if the specified class value is exists in the classList for this element

Event Object Methods and Properties

Method/Property	Description
`target`	Returns the element that triggered the event
`type`	Returns the name of the event
`offsetX`	Returns the horizontal coordinate of the mouse pointer, relative to the DOM element clicked
`offsetY`	Returns the vertical coordinate of the mouse pointer, relative to the DOM element clicked
`stopPropagation`	Prevents further propagation of an event during event flow

Event Types

`click`	`mousemove`	`keydown`	`change`
`dblclick`	`mouseout`	`error`	`focus`
`mouseenter`	`mouseover`	`success`	`submit`
`mouseleave`	`mouseup`	`load`	`select`
`mousedown`	`keyup`	`unload`	`resize`

JavaScript JSON Methods

Function	Description
`parse(string)`	Returns the given string of JSON data as the equivalent JavaScript object
`stringify(object)`	Returns the given object as a string of JSON data

Other handy JavaScript Methods

Function	Description
`parseInt(string, radix)`	function parses a string argument and returns an integer of the specified radix (the base in mathematical numeral systems)
`console.log(string)`	Writes the string to the JavaScript console

JavaScript Array Methods and Properties

Method/Property	Description
`length`	Sets or returns the number of elements in an array
`push(el)`	Adds new elements to the end of an array and returns the new length
`pop()`	Removes and returns the last element of an array
`unshift(el)`	Adds new elements to the beginning of an array and returns the new length
`shift()`	Removes and returns the first element in an array
`sort()`	Sorts the elements of an array
`slice(start, end)`	Selects a part of an array and returns the new array
`join()`	Joins all elements of an array into a string
`concat(list2, ...)`	Joins two or more arrays and returns a copy of the joined arrays
`toString()`	Converts an array to a string and returns the result
`indexOf(el)`	Returns the index of the element in the array, or -1 if not found

JavaScript String Methods and Properties

Method/Property	Description
`length`	Returns the length of a string
`charAt(index)`	Returns the character at the specified index
`indexOf(string)`	Returns the position of the first found occurrence of a specified value in a string
`split(delimiter)`	Splits a string into an array of substrings
`substring(start, end)`	Extracts the characters from a string between two specified indices
`trim()`	Removes whitespace from both ends of a string
`toLowerCase()`	Returns a lowercase version of a string
`toUpperCase()`	Returns an uppercase version of a string
`concat(str2, ...)`	Joins two or more strings and returns a new joined string

JavaScript Timer Functions

Method	Description
`setTimeout(fn, ms)`	Executes a function after waiting a specified number of milliseconds. Returns a value representing the ID of the timeout being set.
`setInterval(fn, ms)`	Repeats a given function at every given time-interval. Returns a value representing the ID of the interval being set.
`clearTimeout(id)`	Stops the execution of the function specified by id
`clearInterval(id)`	Stops the execution of the functions specified by id

JavaScript Math Functions

Method	Description
`Math.random()`	Returns a double between 0 (inclusive) and 1 (exclusive)
`Math.abs(n)`	Returns the absolute value of `n`
`Math.min(a, b, ...)`	Returns the smallest of 0 or more numbers
`Math.max(a, b, ...)`	Returns the largest of 0 or more numbers
`Math.round(n)`	Returns the value of `n` rounded to the nearest integer
`Math.ceil(n)`	Returns the smallest integer greater than or equal to `n`
`Math.floor(n)`	Returns the largest integer less than or equal to `n`
`Math.pow(n, e)`	Returns the base `n` to the exponent `e` power, that is, n^e
`Math.sqrt(n)`	Returns the square root of `n` (`NaN` if `n` is negative)

The Module Pattern

Whenever writing JavaScript, you should use the module pattern, wrapping the content of the code (`window.onload` handler and other functions) in an anonymous function. Below is a template for reference:

```
(function() {
  // any module-globals (limit the use of these when possible)

  window.onload = function() {
    ...
  };

  // other functions
})();
```

Helper Alias Functions

You may use any of the following alias functions in your exam without defining them:

```
function $(id) {
  return document.getElementById(id);
}

function qs(selector) {
  return document.querySelector(selector);
}

function qsa(selector) {
  return document.querySelectorAll(selector);
}
```

Javascript Ajax Fetch Skeleton

```
//you can assume checkStatus is already included
function checkStatus(response) {
  if (response.status >= 200 && response.status < 300) {
    return response.text();
  } else {
    return Promise.reject(new Error(response.status + ": " + response.statusText));
  }
}

function callAjax(){
  let url = ..... // put url string here
  fetch(url) // don't worry about cloud9 credentials
    .then(checkStatus)
    .then(JSON.parse) //optional line for processing json
    .then(function(responseJSON) {
      //success: do something with the responseJSON
     })
     .catch(function(error) {
       //error: do something with error
     });
}
```

PHP

PHP Standard Functions

Function	Description
`isset(el)`	Will return true if `el` has been assigned the constant NULL, `el` has not been set to any value yet (undefined) `el` has been deleted using the unset function
`print(str)`	Prints `str`
`time()`	Returns the current time in seconds
`date(format, time)`	Converts an optional `time` in seconds to a date based on `format`
`mt_rand(min, max)`	Returns a random integer between `min` and `max` (inclusive)
`header(string)`	Sends a raw HTTP header. Examples include: header("HTTP/1.1 400 Invalid Request") header("Content-type: text/plain") header("Content-type: text/html") header("Content-type: application/json")
`die(message)`	Ends execution and sends back optional `message`
`include(path)`	Includes and evalutes the specified file `path`

PHP Array Functions

Function	Description
`count(arr)`	Returns the length of an array `arr`
`print_r(arr)`	Prints the `arr`'s contents
`array_pop(arr)`	Pops (removes) an element off the end of the array `arr`
`array_shift(arr)`	Shifts (removes) an element off the beginning of the array `arr`
`array_push(arr, el)`	Pushes (adds) one or more elements onto the end of the array `arr`
`array_unshift(arr, el)`	Prepends one or more elements to the beginning of the array `arr`
`sort(arr)`	Sorts the array `arr`
`array_reverse(arr)`	Returns an array with elements of `arr` in reverse order
`in_array(el, arr)`	Returns whether a value `el` exists in an array `arr`
`list(a, b, ...)`	Assigns variables as if they were an array
`implode(glue, pieces)`	Joins array elements (`pieces`) with a string (`glue`)
`array_rand(arr)`	Randomly selects a random entry from the array and returns the key (or keys) of the random entries.

PHP String Functions

Function	Description
`strlen(s)`	Returns the length of a string `s`
`strpos(str, substr)`	Returns the position of the first occurrence of `substr` in `str`, or -1 if not found
`substr(s, start, len)`	Returns a substring of `s` starting at `start` and up to `len` characters in length
`trim(s)`	Strips whitespace (or other characters) from both ends of a string
`strtolower(s)`	Returns a lowercase version of `s`
`strtoupper(s)`	Returns an uppercase version of `s`
`explode(delimiter, s)`	Returns an array of substrings of `s` split by `delimiter`
`join(glue, pieces)`	Joins `pieces` using `glue`

PHP File Functions

Function	Description
`file(path)`	Reads entire file `path` into an array
`file_exists(path)`	Returns whether a file or directory `path` exists
`file_get_contents(path)`	Reads entire file `path` into a string
`file_put_contents(path, data)`	Writes a string `data` to a file `path`
`scandir(path)`	Lists files and directories inside the specified `path`
`glob(pattern)`	Lists path names matching `pattern`
`basename(path)`	Given a filename path, this function will strip any leading directory from a file path and return just the filename

PHP JSON Functions

Function	Description
`json_encode(obj)`	Returns JSON equivalent for the given object/array/value
`json_decode(string)`	Parse the given JSON data string and returns an equivalent associative array object

PHP Session and Cookie Functions

Function	Description
`setcookie(name, val, expiration)`	Sends a cookie with given name and value to the user's browser, with optional expiration time given in seconds
`session_start()`	Loads existing session data or starts a new session if one doesn't exist
`session_destroy()`	Destroys old session data
`session_regenerate_id(delID)`	Regenerates session id for next session, and optionally also deletes old `delID`

PHP PDO Functions (with `mysql`)

Note that for some PDO object `$db`, you can call some function `fxn` using `$db->fxn(...)`.

Function	Description
`new PDO('mysql:dbname=database;host=yourhost', username, password')`	Constructor, connecting to the `database` using the given `yourhost` host value
`setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION)`	Sets PDO error-handling properties
`query(sqlquery)`	Returns a `PDOStatement` (that contains a result set) after executing `sqlquery` in the PDO's connected database
`exec(sqlquery)`	Executes a SQL statement. Returns the number of affected rows.
`quote(str)`	Escapes any illegal characters in the `str` and surrounds them with ' quotes. Returns the escaped string.
`prepare(statement)`	Prepares an SQL statement to be executed by the `execute(arr)` method. The SQL statement can contain zero or more named (`:name`) or question mark (`?`) parameter markers for which real values will be substituted when the statement is executed.

PDOStatement Functions

A `PDOStatement` represents a prepared statement and, after the statement is executed, an associated result set. You can retrive the rows using a `foreach` loops, `fetch()`, or `fetchAll()`. These functions are also used with `$stmt->fxn(...)` syntax.

Function	Description
`execute(arr)`	Executes the prepared statement, filling in the named or question mark parameters with real values from the array. Returns TRUE on success or FALSE on failure.
`columnCount()`	Returns the number of columns in the result set.
`fetch()`	Returns the next row from the result set.
`fetchAll()`	Returns all of the rows in an array of arrays representing each row from the set.
`fetchColumn(number)`	Returns the next column from the result set.
`rowCount`	Returns the number of rows in the result set.

HTTP Status Code Reference

Code	Description
200	`OK`
400	`Bad Request`
401	`Unauthorized`
404	`Not Found`
410	`Gone`
500	`Internal Server Error`

PHP Superglobals Reference

Variable	Description
`$_GET`	Superglobal array which contains query parameters passed in via a `GET` request
`$_POST`	Superglobal array which contains `POST` parameters passed in via a `POST` request

PHP Regex Functions

Function	Description
`preg_match(regex, str)`	Returns whether `str` matches `regex`
`preg_replace(regex, repl, str)`	Returns a new string with all substrings of `str` that match `regex` replaced by `repl`
`preg_split(regex, str)`	Returns an array of strings from given `str` split apart using given `regex` as delimiter

Regex Reference

`[abc]`	A single character of: a, b, or c	`.`	Any single character	`(...)`	Capture everything enclosed
`[^abc]`	Any single character except: a, b, or c	`\s`	Any whitespace character	`(a|b)`	a or b
`[a-z]`	Any single character in the range a-z	`\S`	Any non-whitespace character	`a?`	Zero or one of a
`[a-zA-Z]`	Any single character in the range a-z or A-Z	`\d`	Any digit	`a*`	Zero or more of a
`^`	Start of line	`\D`	Any non-digit	`a+`	One or more of a
`$`	End of line	`\w`	Any word character (letter, number, underscore)	`a{3}`	Exactly 3 of a
`\A`	Start of string	`\W`	Any non-word character	`a{3,}`	3 or more of a
`\z`	End of string	`\b`	Any word boundary	`a{3,6}`	Between 3 and 6 of a

options: `i` case insensitive `m` make dot match newlines `x` ignore whitespace in regex `o` perform #{...} substitutions only once

Special characters that need to be escaped to match as literals: `[]^$.|?*+(){}\`

SQL

SELECT

Description: Used to select data from a database table. If `DISTINCT` is used, no duplicate rows are returned.

Syntax (without `DISTINCT`):

```
SELECT column(s)
FROM table;
```

Syntax (with `DISTINCT`):

```
SELECT DISTINCT column(s)
FROM table;
```

WHERE

Description: Used to filter records, returning only those which meet provided conditions.

Syntax:

```
SELECT column(s)
FROM table
WHERE condition(s);
```

Condition types:

- `=, >, >=, <, <=`
- <> (not equal)
- `BETWEEN min AND max`
- `LIKE %pattern` (where % is a wildcard)
- `LIKE pattern%`
- `LIKE %pattern%`

ORDER BY

Description: Used to sort the result set in ascending (default) or descending order.

Syntax:

```
SELECT column(s)
FROM table
ORDER BY column(s) ASC|DESC;
```

LIMIT

Description: Used to give the top-n elements of a given category.

Syntax:

```
SELECT column(s)
FROM table
LIMIT number;
```

CREATE TABLE

Description: Used to create a new table.

Syntax:

```
CREATE TABLE table_name(
  column1 datatype,
  column2 datatype,
  ...
  columnN datatype,
  PRIMARY KEY (one or more columns)
);
```

Record Data Types:

- `VARCHAR(N)` - strings of up to N characters (e.g., 'Whitaker')
- `INTEGER` - integers (e.g., 10)
- `FLOAT` - floats (e.g., 1.54)
- `DATETIME` - date/time representation (e.g., '2017-05-25 18:20:32')

INSERT INTO

Description: Used to insert a new record (row) into an existing table, where the listed values correspond to the listed columns.

Syntax:

```
INSERT INTO table_name (column1, column2, ..., columnN)
VALUES (value1, value2, ..., valueN);
```

DELETE

Description: Used to remove a record (row) which matches condition(s) from an existing table.

Syntax:

```
DELETE FROM table_name
WHERE condition;
```

UPDATE

Description: Used to modify the existing records in a table.

Syntax:

```
UPDATE table_name
SET column1 = value1, column2 = value2, ...
WHERE condition(s);
```

JOIN

Description: Used to select values from more than one table.

Syntax:

```
SELECT col(s)
FROM table1, table2, ...
WHERE table1.a = table2.b
AND table2.c > '42';
```

OR

```
SELECT col(s)
FROM table1
JOIN table2 on table1.a = table2.b
JOIN ...
AND table2.c > '42';
```