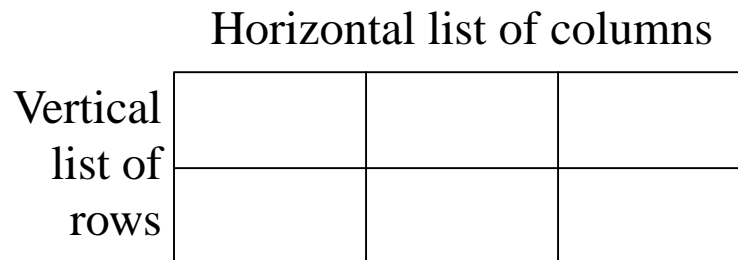


# THE TABLE-CONCEPT IN HTML

## Table:

- It is a 2-dimensional structure: a list of rows (row-major), with each row being a list of entries, one for each column (or a group of consecutive columns).



- Tables can be *nested*, with each table-entry itself being a table.
- A table is defined by a pair of table-tags: `<table>` and `</table>`

## Rows:

- Each row is defined by a pair of row-markers: `<tr>` and `</tr>`:
- There is no explicit declaration of the number of rows; it is determined by the number of `<tr>`-`</tr>` pairs.
- Different rows in a table may have different number of entries provided they together span the same number of columns.

## Columns:

- Each column-entry for a row is defined by a pair of `<td>` and `</td>`.
- There is no explicit declaration of the number of columns; it is determined by the number of `<td>`-`</td>` pairs.

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‡ See <http://www.w3.org> for most updated information

## A TABLE EXAMPLE

```

<table> <!-- Comment: a table with 3 rows and 5 columns -->
  <tr>
    <td> ... <!-- table entry -->
  </td>
  <td> ... </td>
  <td> ... </td> <td> ... </td>
</tr>
<tr>
  <td colspan="3"> ... </td>
  <td colspan="2"> ... </td>
</tr>
<tr>
  <td> ... </td> <td> ... </td>
  <td colspan="2"> ... </td>
  <td> ... </td>
</tr>
</table>

```


### Question:

- ? Can we interchange the positions of second row and first row?
- ? Could we logically remove some of </td> (or </tr>) tags?

### Attributes for tables, rows, and individual entries:

- align (left, right, center, justify), valign (top, bottom, center), ...
- color, width, ...

## NESTED TABLE


```

<table>
  <tr>
    <td> ... </td>
    <td colspan="2">
      <table>
        <tr> <td> ... </td> <td> ... </td>
        </tr>
        <tr> <td> ... </td> <td> ... </td>
        </tr>
      </table>
    </td>
  </tr>
  <tr> <td> ... </td> <td> ... </td> <td> ... </td>
  </tr>
</table>

```

**Question:** Can we use nested tables to create tables with following structures, with overlap in columns or in rows (see below)? If so, show the tag-structure.



## NESTED TABLE-STRUCTURE FOR TOP PART OF MY WEB-PAGE

### Observations if display-window width is reduced:

- (1) The horizontal separation between name-address column and phone-fax-email column stays above a minimum value, which is larger than, say, that for the columns of Table-of-Contents.
- (2) The word "Fax" and the fax-number (225) 578-1465 becomes vertically misaligned.
- (3) The address-line "Berkeley ..." remains always separate from its preceding line.
- (4) The space to the left and to the right of this top-part of the web-page is always the same.
- (5) When you shrink the width below a certain point, the height of this part begins to grow to accommodate some of the address-text, which now occupies more lines.
- (6) If you think further, then at some point the display begins to lose information from the right side.

**Nested Table Structure:** Darkest areas are space-holders.

Top-level: 1 row and 2 columns.


## MAKING A LIST OF ITEMS

**Lists:** Always *ordered* (fi rst item, second item, etc).

- If the ordering is signifi cant, we can indicate the ordering by 1, 2, 3, ... (or *A, B, C, ...*, or *I, II, III, ...*, etc).
- Otherwise, we can use a bullet or some other graphic symbol.
- Lists can be nested.

```
<ol type="1">
  <li> The fi rst list
    <ul type="square"> <li> Item 1.1 <li> Item 1.2 </ul>
  <li> The second list (students, their addresses, telephones, etc.)
    <dl> <dt> Mr. Randy Johnston
      <dd> Randy's address, etc. His telephone numbers:
        <br> <b>225-579-1122</b>, 225-367-8888, ...
        <p> Favorite hobby: Scuba diving.
      <dt> Ms. Kimberly Soloway
      <dd> Kimberley's address, etc.
    </dl>
</ol>
```

1. First list
  - Item 1.1
  - Item 1.2
2. The second list (students, their addresses, telephones, etc.)
 

Mr. Randy Johnston

Randy's address, etc. his telephone numbers:  
**225-579-1122**, 225-367-8888, ...

Favorite hobby: Scuba diving.

Ms. Kimberly Soloway

Kimberley's address, etc.

**Question:** How can we make "Item 1.2" to have a different bullet-type?

## FRAME: A MORE GENERAL WEB-PAGE ORGANIZATION CONCEPT

- The organization of boxes/cells follow the same row-column format of web-tables.
- ! One can independently modify the display in a cell to any web-page, keeping the other cell-contents unchanged. (Each cell behaves like a web-page display-window in itself.)
  - The display may depend on menu-selections in other cells.
  - One can move backward/forward within the displays in a cell.
  - A click on a hyperlink in the display in a cell will bring the new web-page in that cell only instead of a new display-window.
- Can be nested like tables.

### Example.

Personal Data and Contact Information	
Table of Contents <ul style="list-style-type: none"> <li>• Item 1</li> <li>• Item 2</li> <li>• Item 3</li> <li>• Item 4</li> </ul>	An web-page display with its own scroll-bars and whose content depends on the selected item in Table of Contents
Today's personal message: ...	

## THE FRAME SYNTAX

### Defining the frame:

```
<frameset rows="200, *, 5% ">
  <frame src="old-index.html"> <!-- initial content -->
  <frameset cols="150, *">
    <frame src="short-table-of-contents-in-frame.html">
    <frame src="col2-in-frame.html" name="col2">
  </frameset>
  <frame src="bottom-in-frame.html">
</frameset>
```

### short-table-of-contents-in-frame.html:

```
<body>
  <H3> Table of Contents </H3>
  <ul>
    <li> <a href="short-table-of-contents-item-1.html" target="col2">
      Item 1 </a>
    <li> <a href="short-table-of-contents-item-2.html" target="col2">
      Item 2 </a>
  </ul>
</body>
```

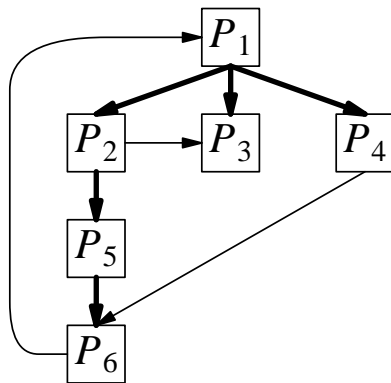
### short-table-of-contents-item-1.html:

```
<body> Contents
  <p> of display <p> for Item 1 <p> in
  <p> Table of Contents.
</body>
```

## WEB-MODELING

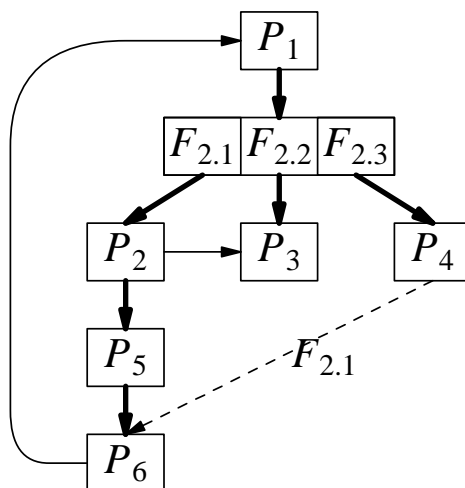
### Page to Page Navigation Model:

- + Shows the reachability relationship among the pages as provided by the explicit links via `<a href=URL-address>...</a>`
- Does not include the standard backward/forward buttons provided by the web-browser).
- Does not include within-page (local) navigation via the combination of `<a href='#id-name'>...</a>` and `<id='id-name'>`



- Additional links other than the basic hierarchical structure.
- Few Loop-back links to the root, in case of large depth.

### Extension To Frames: Shows initial and other loading of frame-cells.



- A frame-page  $P_1$  is shown with its component cells and the initial page-loading ( $P_2$  in  $F_{2.1}$ , etc).
- The dashed-line shows the frame-cell ( $F_{2.1}$ ) other than the current frame-cell ( $F_{2.3}$ ) where the new page  $P_6$  ( $\neq$  initial-page,  $P_2$ ) is loaded.
- A duplicate of  $P_3$  can appear in  $F_{2.1}$  and  $F_{2.2}$  – not good.

‡ F. Ricca and P. Tonella, Understanding and restructuring web-sites with ReWeb, *IEEE Multimedia*, April, 2001, pp. 40-51.



## DOMINATOR

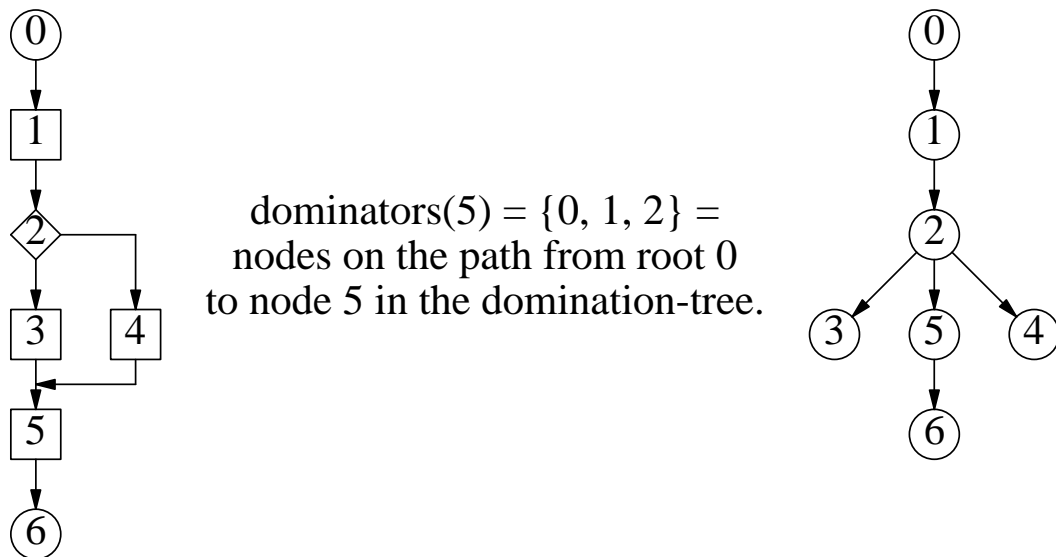
### For Program Flowchart and Rooted Directed Graphs:

- Node  $x$  dominates node  $y$ : every path from start-node to  $y$  goes through  $x$ .
- *Transitivity*: If  $x$  dominates  $y$  and  $y$  dominates  $z$ , then  $x$  dominates  $z$ .

Domination relationship can be represented as a tree, when we show only the essential part of the relationship.

- If  $x$  and  $y$  both dominate  $z$ , then either  $x$  dominates  $y$  or vice-versa.

**Example.** A flowchart and its domination-tree.



### Question:

- ? If  $F$  is flowchart, then how can we tell from its domination-tree  $D(F)$  which nodes are branch-nodes in  $F$ ? Is there a way to determine from  $D(F)$  if a branch-node is a loop-test node in  $F$  – explain your answer.
- ? How different is the web-graph from its domination-tree?
- ? Which pages must we navigate through in reaching a particular page?
- ? Which pages can appear in which frame-cell?
- ? Can we have the same page appear in two different cells in the same frame?

## LINKS, LABELS, AND INDICES

- These are navigation-tools, and they directly relate to the information organization in the web.
- Web-navigation does not have the luxury of body-languages of interpersonal communication; web is still a printed medium.
- Getting a user to an web-page and keeping him there is the challenge: anticipate his interests and guide him/her properly.

They cannot undo a poor information organization and save a bad design.

### **Pull-down menus:**

- Local context.
- Same item in two pull-down menus need not have the same meaning.

### **Table of Contents:**

- Gives top level view.
- Can be multi-level (depth  $\leq 2$ ); fits hierarchical tree structure.

### **Choice of terms:**

- Short (simple) and familiar ('Home' vs. 'Root', 'Help' vs. 'Question?', 'Contact Us' vs. 'Reach Us').
- Follow convention; can be occasionally catchy (but not confusing or challenging).
- Avoid unconventional terms; users are not visiting your web-page to think too much.

Consistency breeds familiarity;  
familiarity breeds contentment.