



Internet and Web-Based Systems Development

Lecture 3

XHTML Tables, Internal Links and Frames



Lecture 3

- Table
- Internal Linking
- Frameset and Frame



Introduction to Table

- A frequently used feature that organizes data into rows and columns
 - A lot of popular Websites use “invisible” tables to structure and display the information
 - Examples
 - <http://www.weather.gov.hk/contente.htm>
 - <http://www.hangseng.com>

Table

`<table> ... </table>`

- Specify the start and the end of a table

○ Attributes

border

- specifies the table's border width in pixels
- to create a table without a border, set border to "0"
 - If the value is specified in percentage %, the table occupy the corresponding percentage of the browser's width

Table

`<caption> ... </caption>`

- describes the table's content
 - The text is normally rendered above the table by most browsers
- A table has three distinct sections
- head
 - body
 - foot

Table Header

`<thead> ... </thead>`

- stands for “table header”
- contains header information of the table, such as column names

`<tr> ... </tr>`

- defines an individual **t**able **r**ow

`<th> ... </th>`

- defines an individual header column in a row
- Most browsers center and display the text in **bold**

Table Body

`<tbody> ... </tbody>`

- stands for “table body”
- contains the table’s primary data

`<tr> ... </tr>`

- defines an individual **t**able **r**ow

`<td> ... </td>`

- contains individual pieces of data in a row

Table Footer

`<tfoot> ... </tfoot>`

- stands for “table footer”
- Common text placed includes calculation results and footnotes

`<tr> ... </tr>`

- defines an individual **t**able **r**ow

`<th> ... </th>`

- defines an individual footer column in a row
- Most browsers center and display the text in **bold**

Table Example

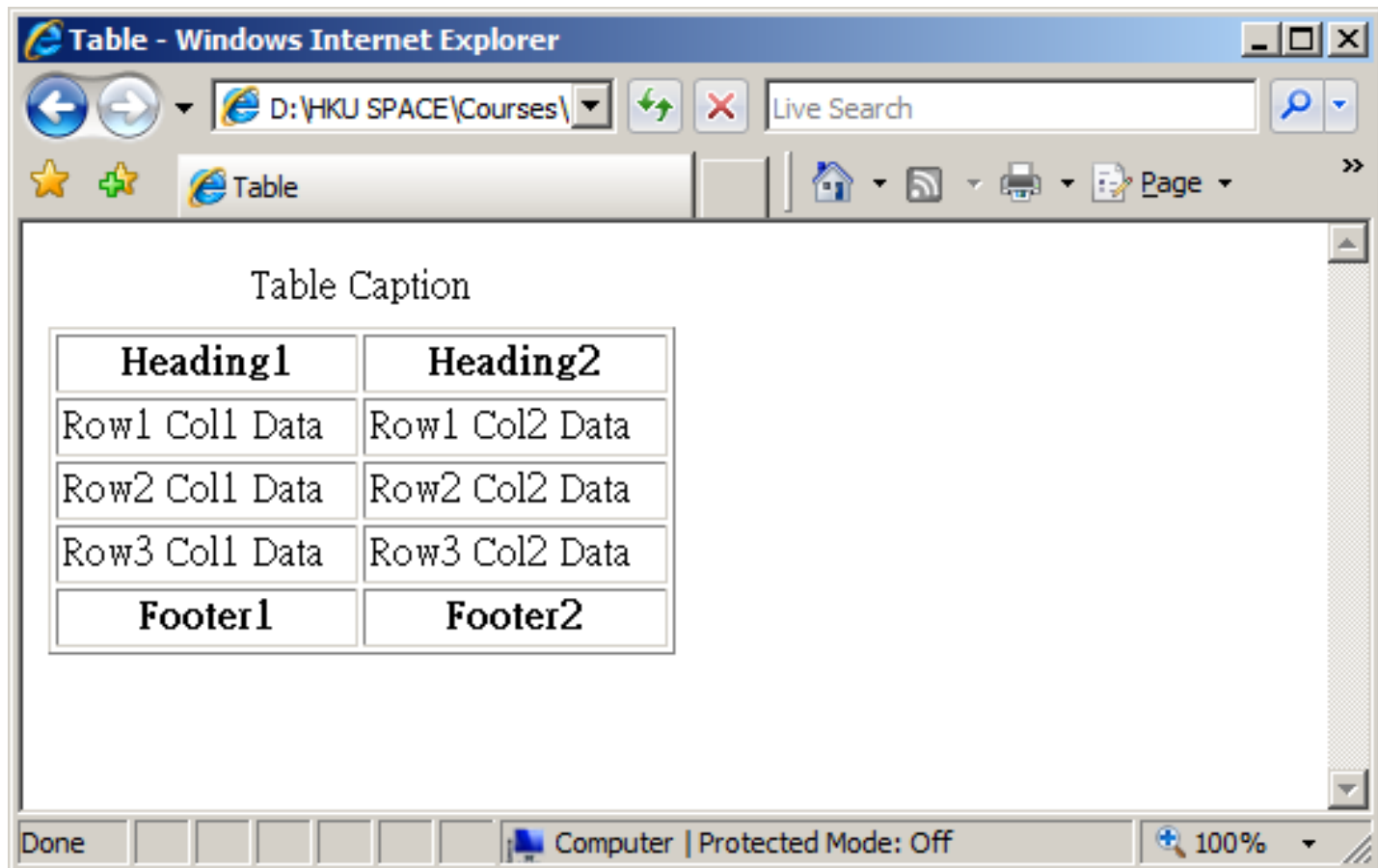
```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
  Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
  transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Table</title>
</head>
<body>
<table border = "1" width = "50%">
  <caption>
    Table Caption
  </caption>
  <thead>
    <tr>
      <th>Heading1</th>
      <th>Heading2</th>
    </tr>
  </thead>
```

table.html (Page 1 of 2)

```
<tbody>
  <tr>
    <td>Row1 Col1 Data</td>
    <td>Row1 Col2 Data</td>
  </tr>
  <tr>
    <td>Row2 Col1 Data</td>
    <td>Row2 Col2 Data</td>
  </tr>
  <tr>
    <td>Row3 Col1 Data</td>
    <td>Row3 Col2 Data</td>
  </tr>
</tbody>
<tfoot>
  <tr>
    <th>Footer1</th>
    <th>Footer2</th>
  </tr>
</tfoot>
</table>
</body>
</html>
```

table.html (Page 2 of 2)

Table Example





Other Useful Table Attributes

CELLSPACING

- Gives the space in pixels between adjacent cells
- Drawn as a 3D line if **BORDER** is nonzero
- The default value is usually about 3

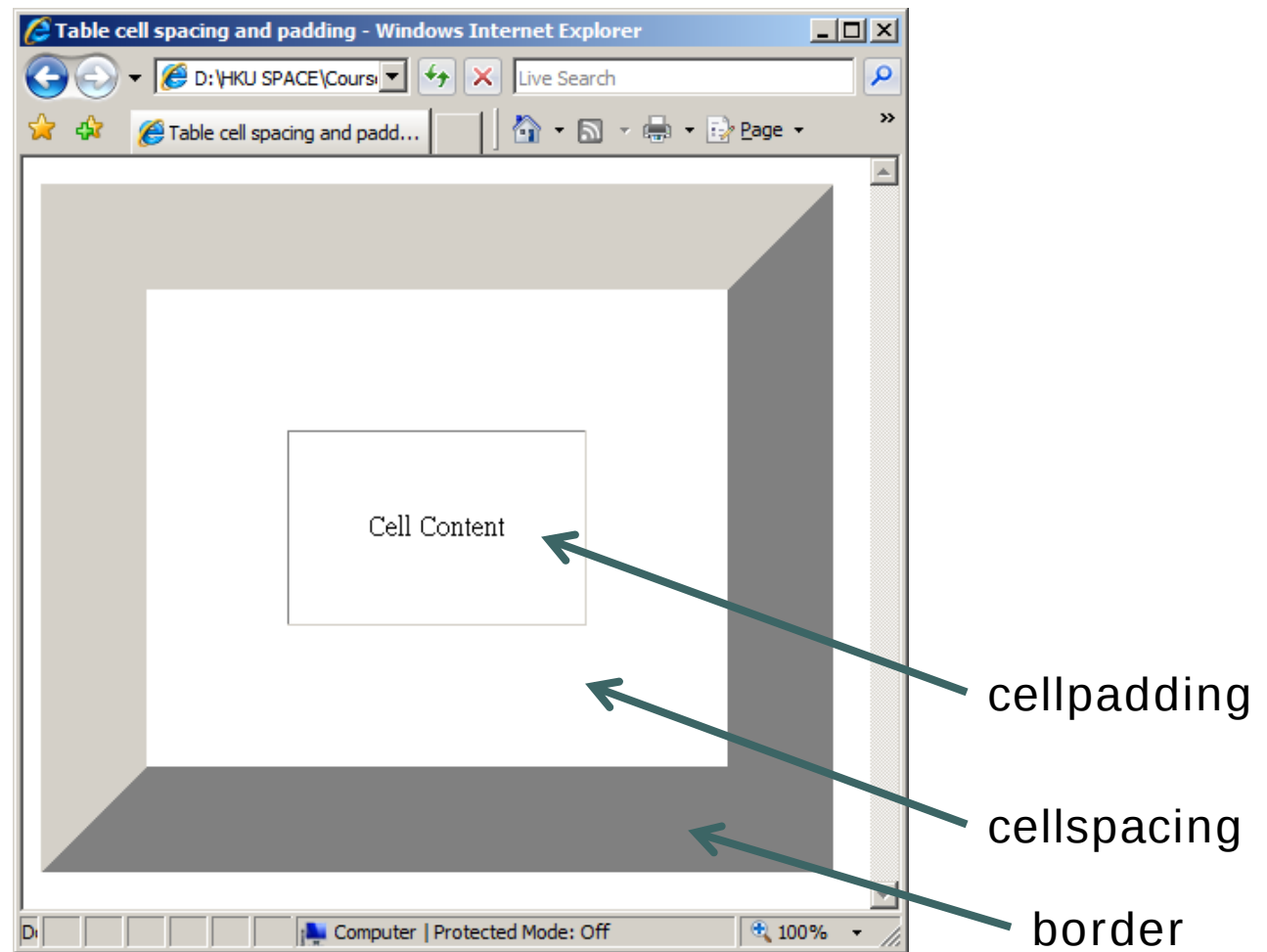
CELLPADDING

- Determines empty space in pixels between border and the cell
- The default is usually about 1

Table Example 2

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Table cell spacing and padding</title>
</head>
<body>
<table border = "60" cellspacing = "80" cellpadding = "45">
  <tbody>
    <tr>
      <td>Cell Content</td>
    </tr>
  </tbody>
</table>
</body>
</html>
```

Table Example 2

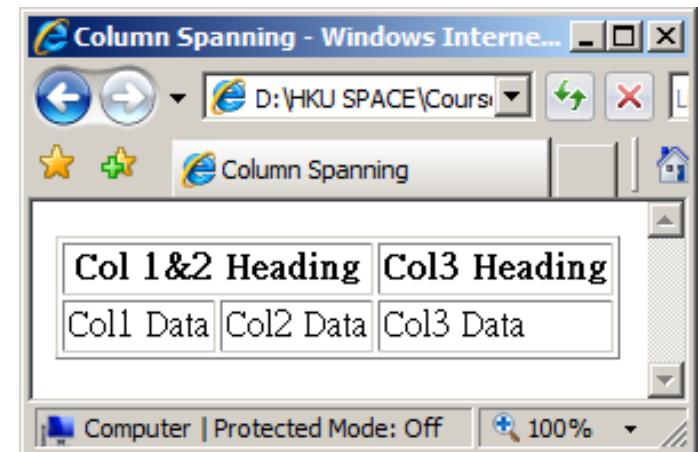


TH and TD attributes

COLSPAN

- Defines a header or cell data entry that spans multiple columns

```
<table border = "1">
  <thead>
    <tr>
      <th colspan="2">Col 1&2 Heading</th>
      <th>Col3 Heading</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Col1 Data</td>
      <td>Col2 Data</td>
      <td>Col3 Data</td>
    </tr>
  </tbody>
</table>
```

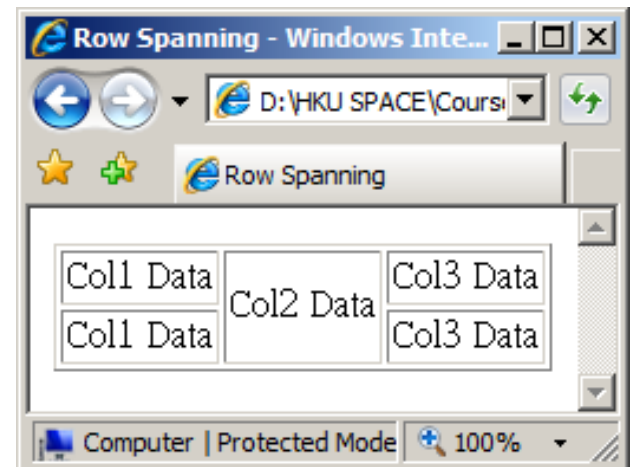


TH and TD attributes

ROWSPAN

- Defines a heading or cell data entry that spans multiple rows

```
<table border = "1">
  <tbody>
    <tr>
      <td>Col1 Data</td>
      <td rowspan="2">Col2 Data</td>
      <td>Col3 Data</td>
    </tr>
    <tr>
      <td>Col1 Data</td>
      <td>Col3 Data</td>
    </tr>
  </tbody>
</table>
```





TH and TD attributes

ALIGN

- LEFT (default), RIGHT, CENTER, or JUSTIFY

VALIGN

- TOP, BOTTOM, MIDDLE

Internal Linking

- In previous lecture, we discussed how to hyperlink one Web page to another
- A similar coding can be used for *internal linking*
 - a mechanism that enables the user to jump between locations in the same document
 - useful for long documents that contain many sections
- Clicking an internal link enables users to find a section without scrolling through the entire document

Internal Linking Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
  Transitional//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
  transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Internal Linking</title>
</head>
<body>
<p><a name = "top"></a></p>
<h1>Higher Diploma in Business Systems</h1>
<ul>
  <li><a href="#program">Structured and Object-
    oriented Programming</a></li>
  <li><a href="#sad">Systems Analysis and
    Design</a></li>
  <li><a href="#web">Internet and Web-Based System
    Development</a></li>
</ul>
```

internal.html (Page 1 of 3)



<p>The programme strikes the right balance, providing in-depth knowledge from both worlds with a specially designed curriculum to blend and integrate two worlds together. It also provides a platform for you to study more specialised business areas. </p>

<h2>Courses</h2>

<p></p>

<h3>Structured and Object-oriented Programming</h3>

<p>This module is designed to acquaint the student with the basic programming knowledge. Aim at introducing the concepts and techniques of problem solving using a high-level programming language with both the structured approach and the object-oriented approach and cultivating good programming habits and discipline, as well as providing students with knowledge and practical experience in programming. Knowledge of structured programming lays foundations of programming concepts while knowledge of the object-oriented approach gives students better problem-solving skills and insight to today's computational problems in business environment.</p>

<p></p>

<h3>Systems Analysis and Design</h3>

<p>The module is to provide students with various concepts, principles, and stages of business information systems analysis and design. Students will learn about groups of people involved in systems development and the different methods, tools, and techniques used in systems analysis and design in particular with a focus on object-oriented approach of systems analysis and design.</p>

<p></p>

<h3>Internet and Web-Based System Development</h3>

<p>The module introduces the student to technologies commonly used to develop Internet and Web-based business applications as well as provides an overview of server-side technologies. Through hands-on labs and examples, the student will be able to immediately practice the concepts introduced in the class.</p>

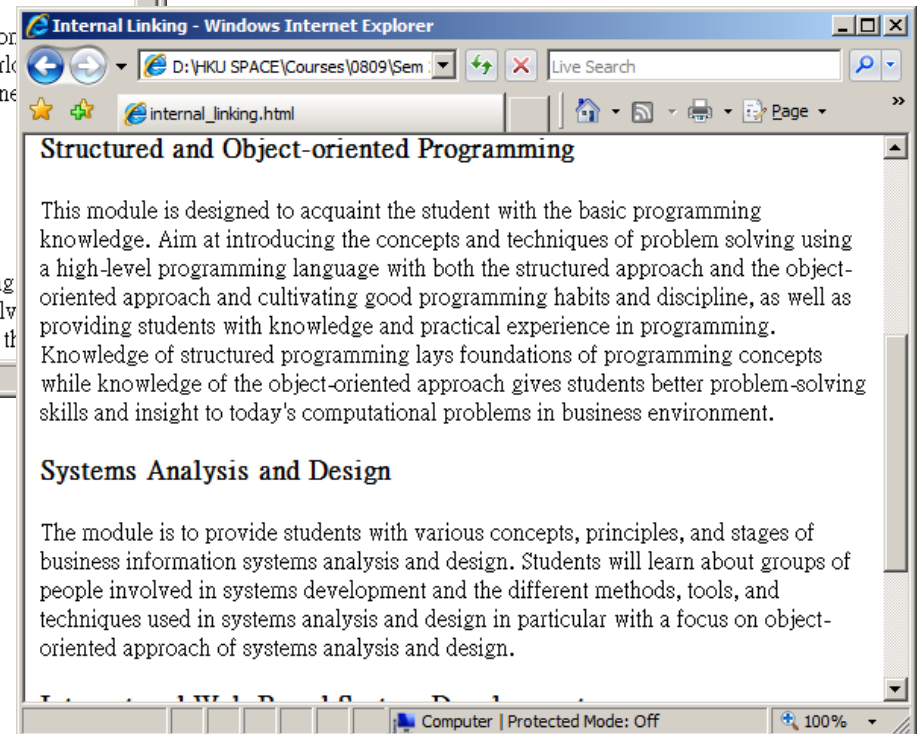
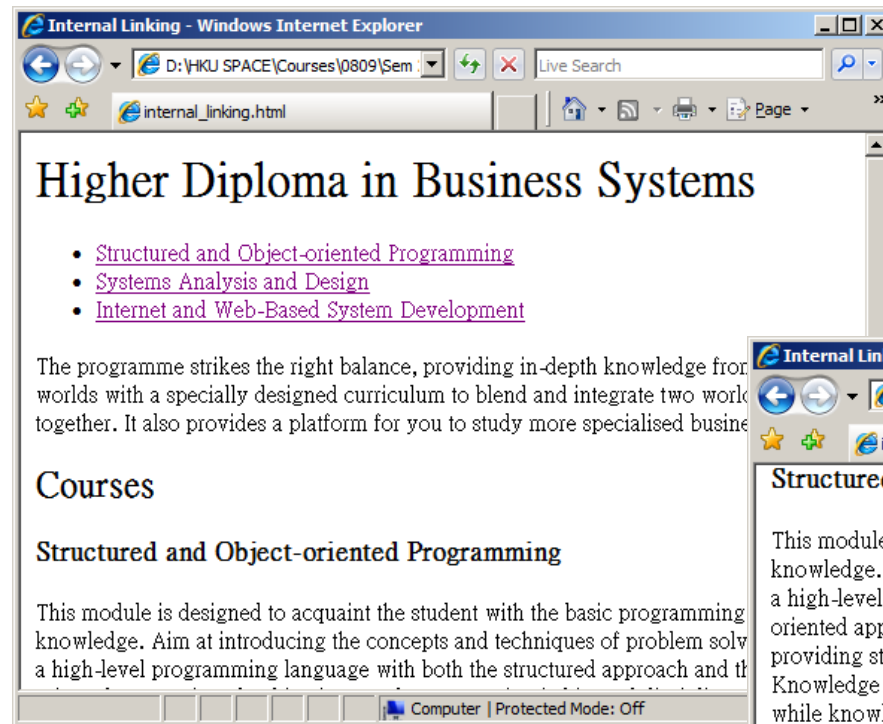
<p>Back to Top</p>

</body>

</html>

internal.html (Page 3 of 3)

Internal Linking Example





Introduction to Frames

- All of the Web pages we have seen have the ability to link to other pages
 - but can display only one page at a time
- Frames, which allow the browser
 - to display more than one XHTML page at the same time

Frames

○ Frame Template

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
  Frameset//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
  frameset.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html;
  charset=utf-8" />
<title>Frameset Template</title>
</head>
<frameset ...>
  <frame ...>
  <frame ...>
  <noframes>
    <!-- Stuff for non-Frames browsers -->
  </noframes>
</frameset>
</html>
```

Frameset Attributes

COLS, ROWS

- A comma-separated list of pixel values, percentages, and weighted remainders
- `FRAMESET` entries should **always specify at least two rows or columns**

○ Examples

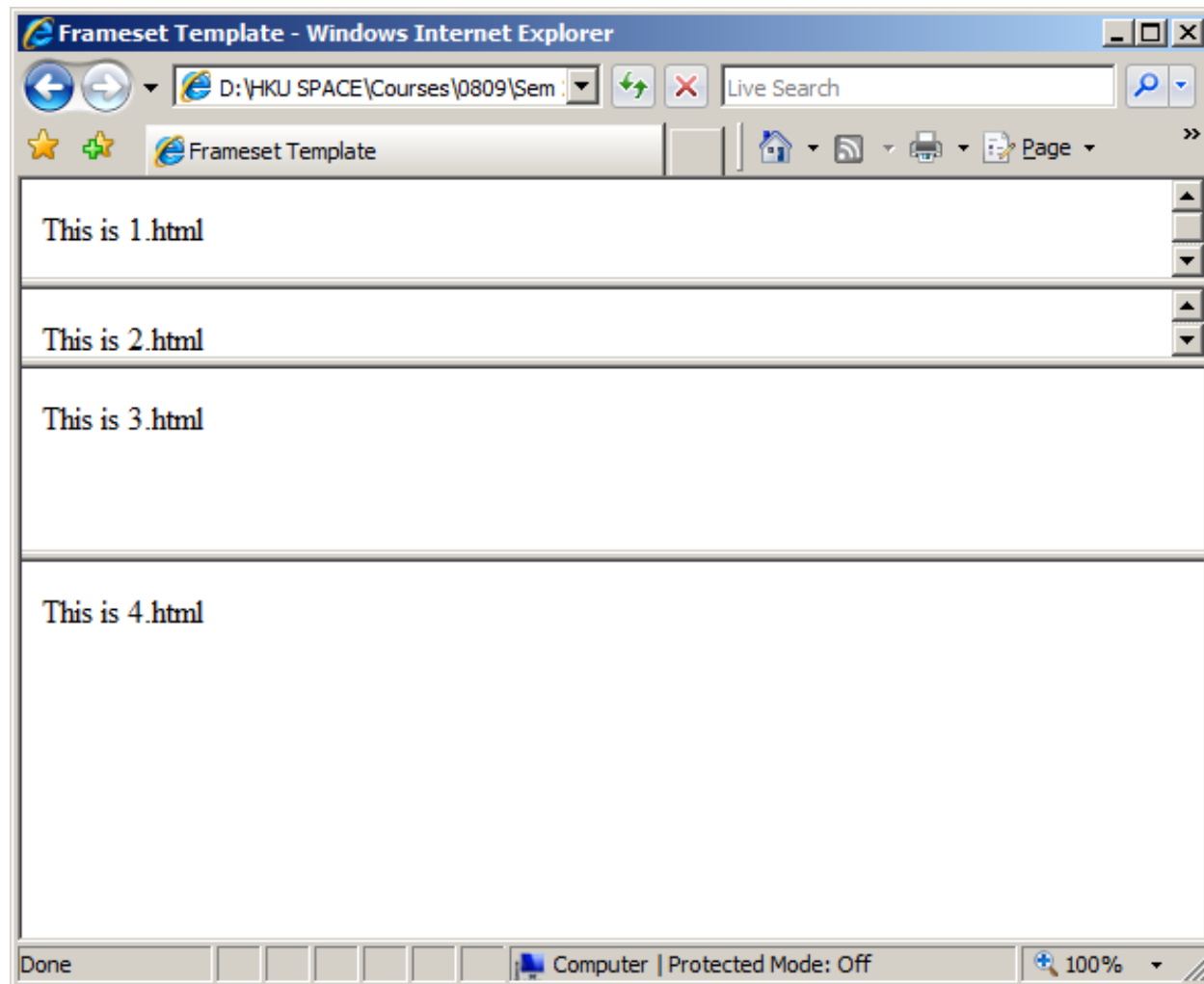
```
<FRAMESET ROWS="50,10 %,*,2*">  
...  
</FRAMESET>
```

```
<FRAMESET COLS="25 %,*,*">  
...  
</FRAMESET>
```

Frameset Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
  Frameset//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
  frameset.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Frameset Template</title>
</head>
<frameset rows="50,10%,*,2*">
  <frame src="1.html" />
  <frame src="2.html" />
  <frame src="3.html" />
  <frame src="4.html" />
  <noframes>
    <!-- Stuff for non-Frames browsers -->
  </noframes>
</frameset>
</html>
```

Frameset Example



Frame Attributes

SRC

- URL of the XHTML document to place in the frame cell

NAME

- Defines a unique name for the frame

FRAMEBORDER

- **1** – With border between frame cells
- **0** – Specifies no border

MARGINHEIGHT

- Defines the top and bottom margins in the frame

MARGINWIDTH

- Defines the left and right margins in the frame

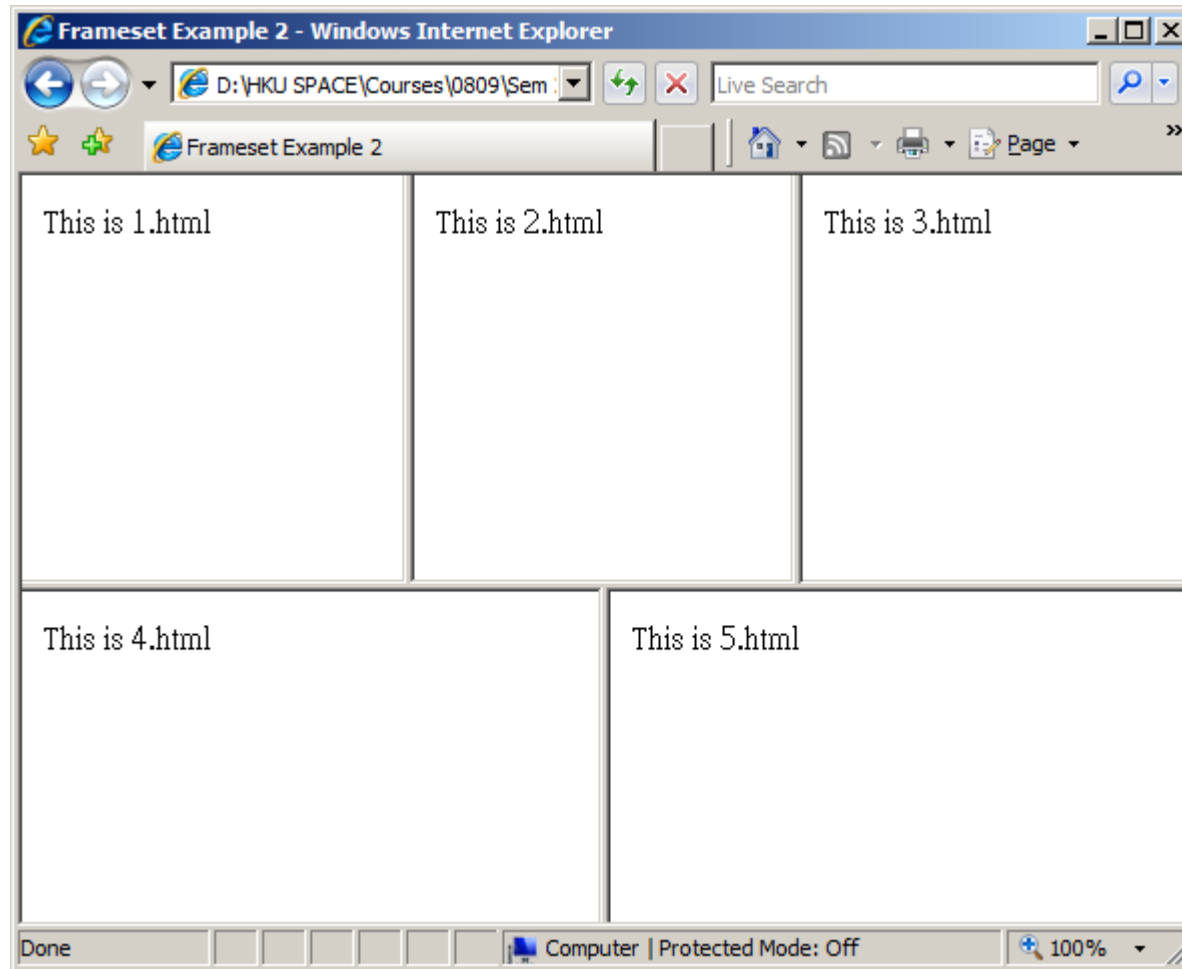
SCROLLING

- YES, NO, or AUTO
- Indicates whether cells should have scrollbars

Frameset Example 2

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Frameset//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-frameset.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Frameset Example 2</title>
</head>
<frameset rows="55%,45%">
    <frameset cols="*,*,*">
        <frame src="1.html" />
        <frame src="2.html" />
        <frame src="3.html" />
    </frameset>
    <frameset cols="*,*">
        <frame src="4.html" />
        <frame src="5.html" />
    </frameset>
</frameset>
<noframes>
    Your browser does not support frames. Please see <a
        href="1.html">non-frames version</a>.
</noframes>
</frameset>
</html>
```

Frameset Example 2



Target Frame Cells

- Specify the frame in which to load a page referenced by a hyperlink
- The **NAME** attribute of **<FRAME>**

<FRAME SRC="..." NAME="cellName">

- The **TARGET** attribute of **<A HREF...>**

Target Frame Cells Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
  Frameset//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-
  frameset.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>HKU Links</title>
</head>
<frameset cols="200,*">
  <frame src="hkulinks.html" />
  <frame src="description.html" name="main" id="main" />
  <noframes>
    This page requires Frames. For a non-frame version, <a
      href="hku.html">The links</a>.
  </noframes>
</frameset>
</html>
```

mainpage.html



```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>HKU Links</title>
</head>
<body>
<table width="100%" border="0" cellpadding="10">
  <tbody>
    <tr>
      <td><a href="http://www.soul.hkuspace.org/home/eng/"
target="main">SOUL</a></td>
    </tr>
    <tr>
      <td><a href="http://hkuspace.hku.hk/" target="main">HKU
SPACE</a></td>
    </tr>
    <tr>
      <td><td><a href="https://learner.hkuspace.hku.hk/"
target="main">Learner Portal</a></td></td>
    </tr>
    <tr>
      <td><a href="http://www.hku.hk/" target="main">HKU</a></td>
    </tr>
  </tbody>
</table>
</body>
</html>
```

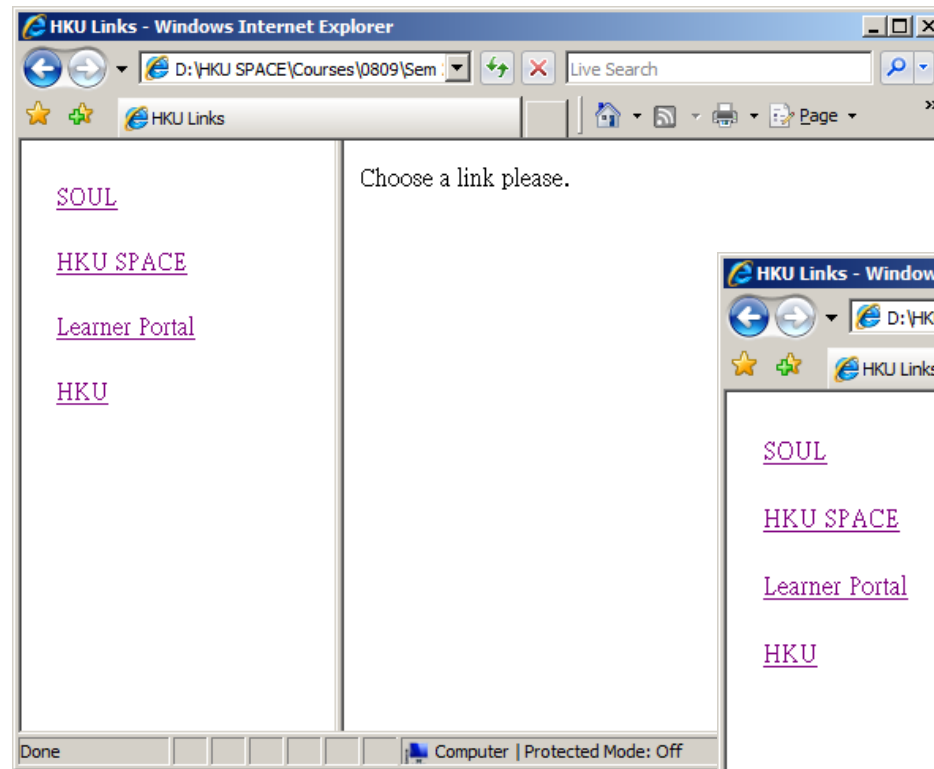
hkulinks.html



```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Description</title>
</head>
<body>
Choose a link please.
</body>
</html>
```

description.html

Target Frame Cells Example



Frameset

○ Pros

- Certain parts of the interface (e.g., a TOC) are always on the screen
- Can avoid retyping common sections of multiple Web pages

○ Cons

- Confusing “Back” and “Forward” buttons of browsers
- Poorly designed frames can get the user lost
 - E.g., a frame containing its parent frameset
- Hard to find the real URL of a page
 - Note the address bar when you use the frameset