Chapter 5 Introduction to Cascading Style Sheets (CSS): Part 2

Internet & World Wide Web How to Program, 5/e

CSS Positioning Elements: Absolute Positioning, z-index

- CSS `position` property
  - Allows absolute positioning, which provides greater control over where on a page elements reside
  - Normally, elements are positioned on the page in the order in which they appear in the HTML5 document
  - Specifying an element's position as absolute removes it from the normal flow of elements on the page and positions it according to distance from the top, left, right or bottom margin of its parent element

CSS Positioning Elements: Absolute Positioning, z-index (Cont.)

- The ***z*-index** property allows a developer to layer overlapping elements
- Elements that have higher *z*-index values are displayed in front of elements with lower *z*-index values

CSS Positioning Elements: Relative Positioning, span (Cont.)

Inline and Block-Level Elements

- Inline-level elements
  - Do not change the flow of the document
  - Examples:
    - `img`
    - `a`
    - `em`
    - `strong`
    - `span`

      Grouping element

      Does not apply any formatting to its contents

      Creates a container for CSS rules or `id` attributes to be applied to a section

CSS Positioning Elements: Relative Positioning, span (Cont.)

- Block-level elements
  - Displayed on their own line
  - Have virtual boxes around them
  - Examples:
    - `p`
    - all headings (`h1` through `h6`)
    - `div`

      A grouping element like `span`, but it's block-level

CSS Backgrounds

- CSS can control the backgrounds of block-level elements by adding:
  - Background-color
  - Background-image

CSS Backgrounds (Cont.)

background-image Property

- Specifies the URL of the image, in the format url(fileLocation)

background-position Property

- Places the image on the page using the values `top`, `bottom`, `center`, `left` and `right` individually or in combination for vertical and horizontal positioning. You can also position by using lengths

CSS Backgrounds (Cont.)

background-repeat Property

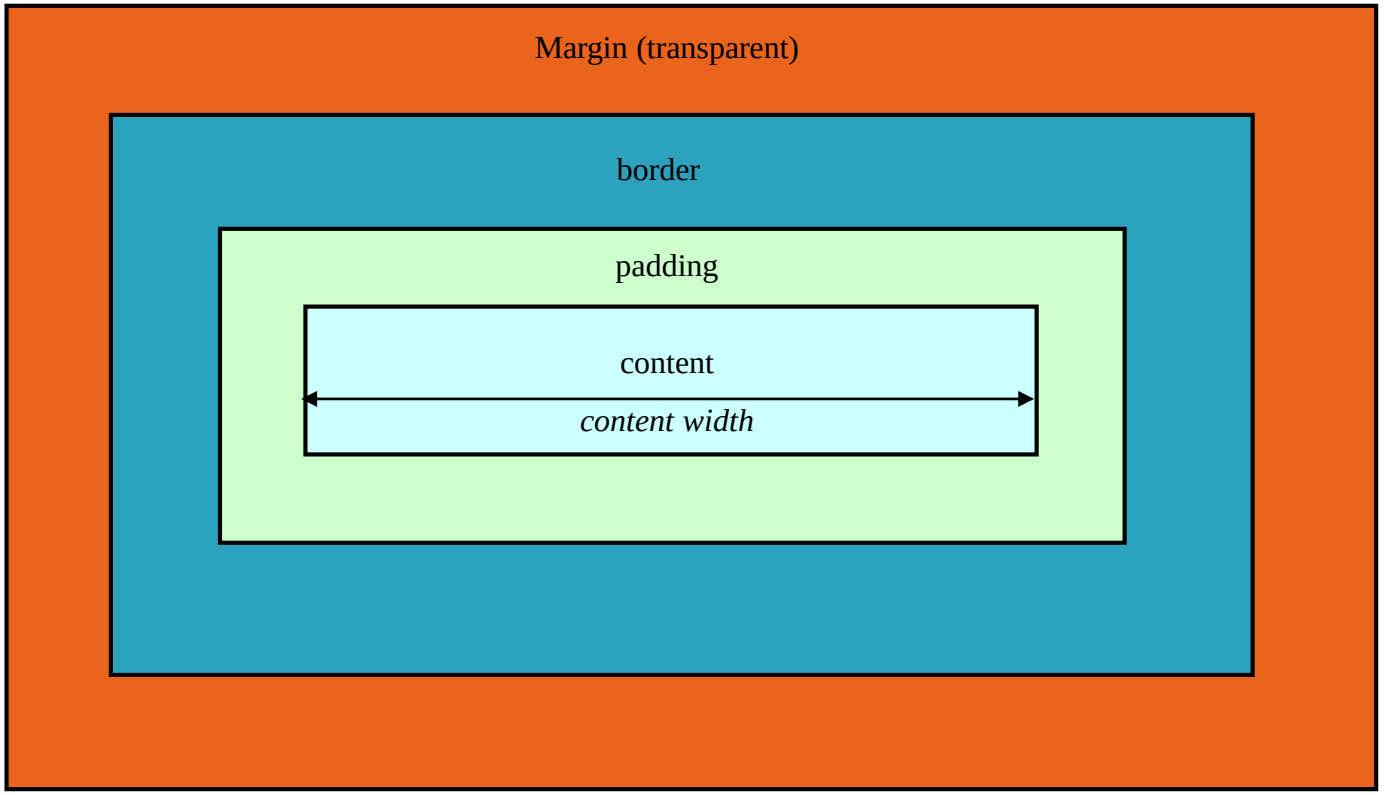
- background-repeat property controls the **tiling** of the background image
  - Setting the tiling to no-repeat displays one copy of the background image on screen
  - Setting to repeat (the default) tiles the image vertically and horizontally
  - Setting to repeat-x tiles the image only horizontally
  - Setting to repeat-y tile the image only vertically

Demo 2: Positioning and Background

4.10 Box Model and Text Flow

- Block-level HTML5 elements have a virtual box drawn around them based on the box model
- When the browser renders an element using the box model, the content is surrounded by padding, a margin and a border.
- Padding
  - The padding property determines the distance between the content inside an element and the edge of the element
  - Padding be set for each side of the box by using `padding-top`, `padding-right`, `padding-left` and `padding-bottom`
- Margin
  - Determines the distance between the element's edge and any outside text
  - Margins for individual sides of an element can be specified by using `margin-top`, `margin-right`, `margin-left` and `margin-bottom`

The CSS Box Model



4.10 Box Model and Text Flow (Cont.)

- Border
  - The border is controlled using the properties:
  - `border-width`
    - May be set to any of the CSS lengths or to the predefined value of `thin`, `medium` or `thick`
  - `border-color`
    - Sets the color used for the border
  - `border-style`
    - Options are: `none`, `hidden`, `dotted`, `dashed`, `solid`, `double`, `groove`, `ridge`, `inset` and `outset`

4.10 Box Model and Text Flow (Cont.)

Floating Elements

- Floating allows you to move an element to one side of the screen; other content in the document then *flows around* the floated element.

4.10 Box Model and Text Flow (Cont.)

margin and padding Properties

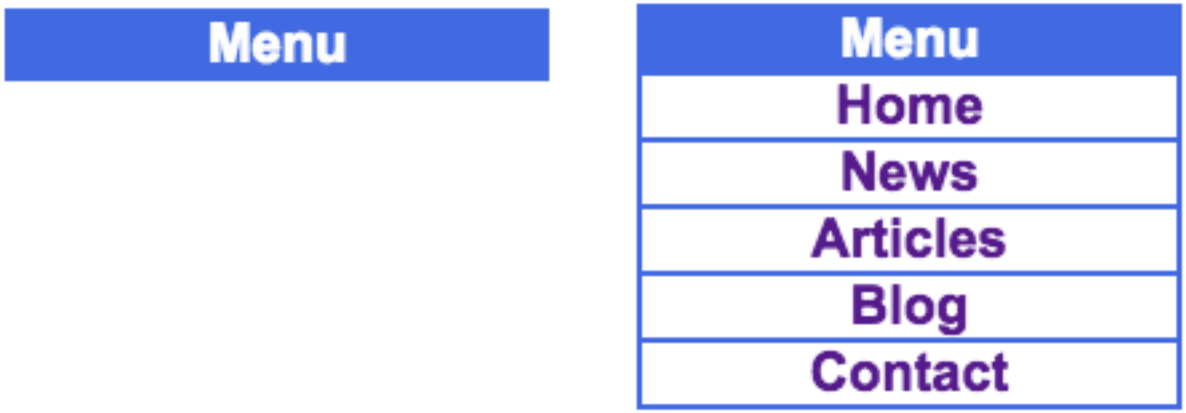
- The **margin** property sets the space between the outside of an element's border and all other content on the page.
- The **padding** property determines the distance between the content inside an element and the inside of the element's border.
- Margins for individual sides of an element can be specified by using the properties `margin-top`, `margin-right`, `margin-left` and `margin-bottom`.
- Padding can be specified in the same way, using `padding-top`, `padding-right`, `padding-left` and `padding-bottom`.

Demo 3: Box Model

4.12 Drop-Down Menus

- `:hover` pseudoclass
  - used to apply styles to an element when the mouse cursor is over it
- `display` property
  - allows a programmer to decide if an element is displayed as a block element, inline element, or is not rendered at all (none)

Demo 4: Drop-Down Menus



Text Shadows

- CSS `text-shadow` property
  - Adds a text shadow effect to any text
  - The property has 4 values: horizontal and vertical offsets of the shadow, blur radius, and color
  - Example:

```
h1 {text-shadow: -4px 4px 6px dimgrey;}
```

Box Shadows

- CSS box-shadow property
  - Adds a shadow effect to any block-level element
  - The property has 4 values: horizontal and vertical offsets of the shadow, blur radius, and color
  - Example:

```
h1 {box-shadow: 25px 25px 50px dimgrey;}
```

Demo 5: Text and Box Shadows

5.12 Animation

- CSS animation property: allows animation of most HTML elements without using JavaScript or Flash
- Syntax:

{**animation**: *name timing-function duration delay iteration-count direction*;}

name: name of the animation

timing-function: type of animation (linear, ease, ease-in, ease-out, ease-in-out, cubic-bezler, etc.)

duration: time for one iteration

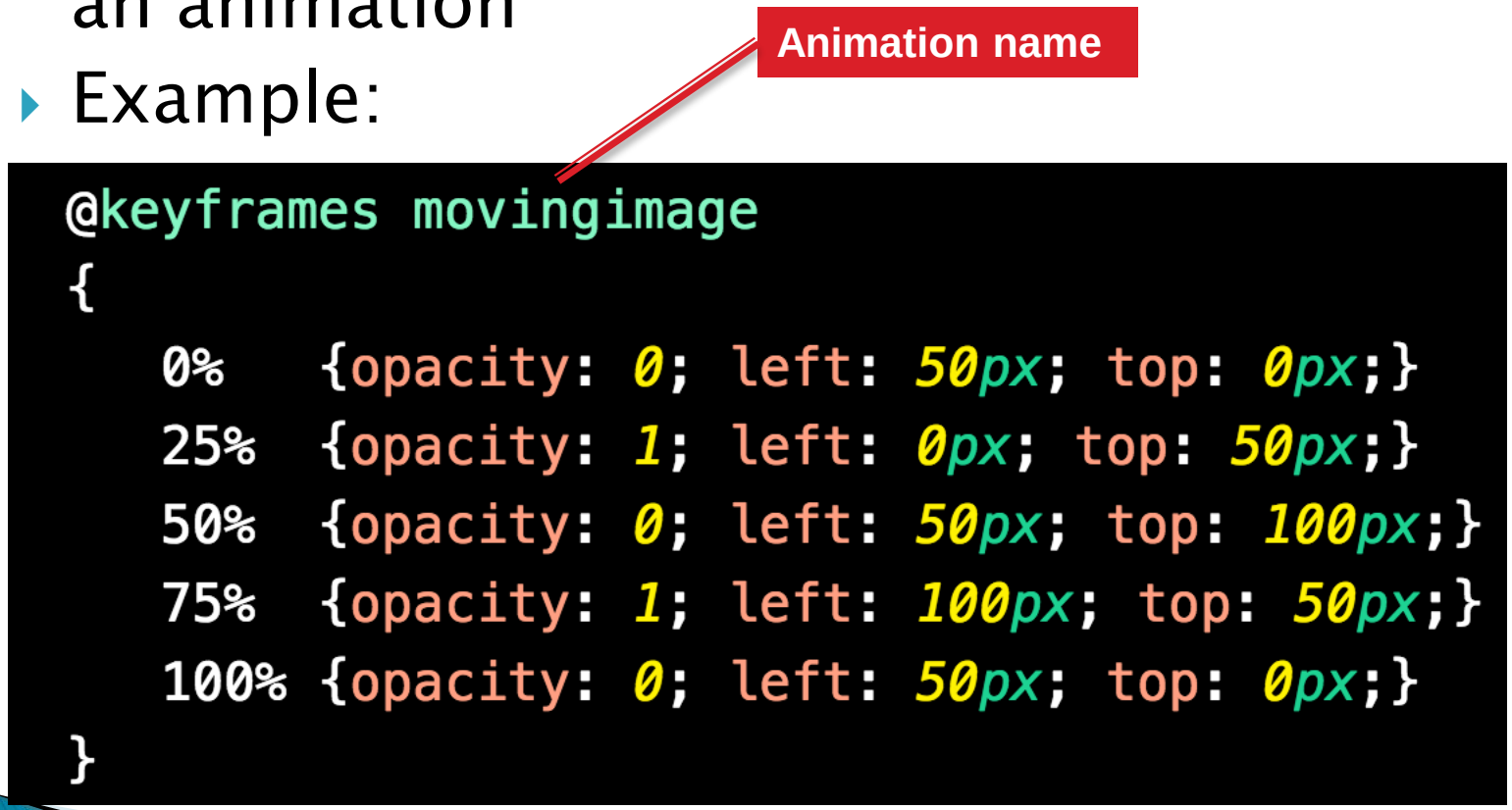
delay: time after the page loads and before animation begins

iteration-count: number of times animation runs (a number or infinite)

direction: animation direction (normal, alternate, etc.)

Animation (cont'd)

- Also need to define a CSS @keyframe rule for an animation
- Example:



Browser Compatibility

- Some CSS extensions only work with specific browsers
  - Extensions with prefix –webkit only work with webkit based browsers, such as Chrome, Safari, android and IOS browsers
  - Extensions with prefix –moz only work with Mozilla Firefox
  - Extensions with prefex –ms only work with Microsoft browsers
  - Other extensions exist

Animation Example for Webkit Browsers

```
img
{
    position: relative;
    -webkit-animation: movingimage linear 10s 1s 2 alternate;
}
@-webkit-keyframes movingimage
{
    0%   {opacity: 0; left: 50px; top: 0px;}
    25%  {opacity: 1; left: 0px; top: 50px;}
    50%  {opacity: 0; left: 50px; top: 100px;}
    75%  {opacity: 1; left: 100px; top: 50px;}
    100% {opacity: 0; left: 50px; top: 0px;}
}
```

Demo 6: Animation