

Advanced topics

Chapter 6

Outline

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- A. Absolute positioning
- B. Embedded content
- C. Dynamic Effects

Part A. Absolute positioning

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- **Absolute positioning** places a box in a specified location on a layer above the containing block
 - ▣ Selected by **position: absolute**
 - ▣ Offset properties **left**, **right**, **top** and **bottom** determine the location of the box
 - ▣ Property **z-index** determines the stacking order of layers
- Elements using absolute positioning become block boxes
 - ▣ commonly known as **AP boxes** or **AP layers**.
 - ▣ Should specify width. May specify other box properties



Basic operation of abs pos

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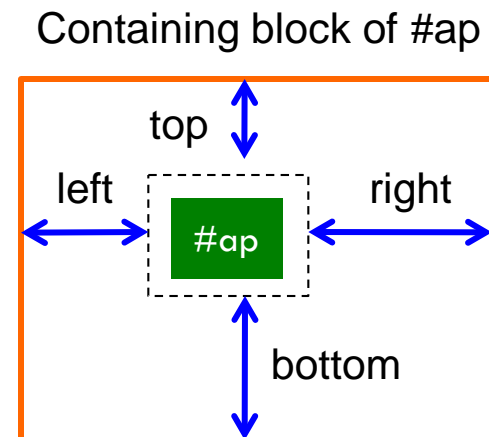
- Remove the AP box from the flow
 - ▣ Normal flow sibling elements of the AP box remain in the containing block *beneath* the AP box
 - ▣ The AP box *does not affect* the layout of these content in the containing block
- Use offset properties to determine the location of the AP box w.r.t. the containing block.
 - ▣ If no offset are specified, use the 'static position', i.e. its position when laid out in normal flow

Offset properties

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- You can set location of the AP box by specifying offset from two sides:
 - ▣ If **left** / **right** has a value, it is used to fix the horizontal position.
 - ▣ If **top** / **bottom** has a value, it is used to fix the vertical position.
 - ▣ If both **left** and **right** have a value, and **width: auto**, then the browser stretches the box horizontally to fill the containing block
 - Similar for top and bottom.

```
#ap {  
  position: absolute;  
  top: 20px; right: 20px;  
}
```

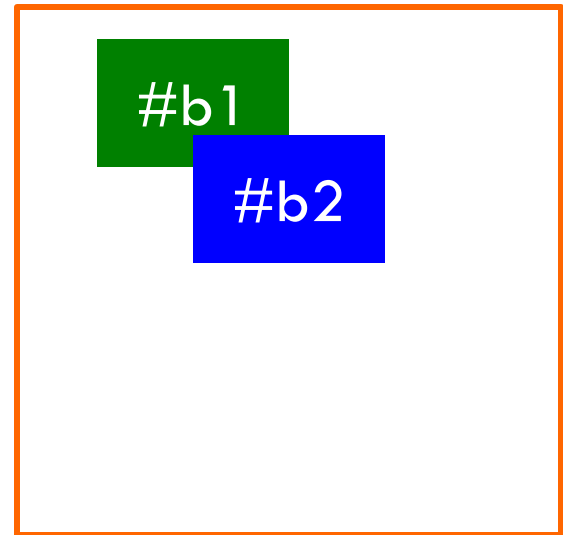


z-index property

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- AP box may cover other AP boxes
- The property **z-index** determines the stacking order
 - ▣ Box with larger z-index is on top of the other box

```
#b1, #b2 {  
  position: absolute;  
  width: 100px; height: 80px; }  
#b1 {  
  background-color: green;  
  top: 10px; left: 30px; z-index: 2; }  
#b2 {  
  background-color: blue;  
  top: 70px; left: 80px; z-index: 6; }
```



Containing block

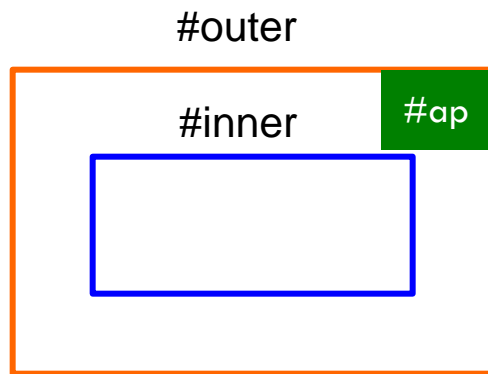
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- The *containing block* for an AP box is the nearest **positioned** ancestor.
 - ▣ A positioned element is one with **position: absolute**, **position: relative** or **position: fixed**
 - ▣ Boxes using normal flow and floating are not positioned
 - ▣ Containing block includes the padding edge
- If there is no such ancestor, CSS will use the 'initial containing block', which is the region of the HTML document within the initial viewport of the browser

Containing block, example

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- The *containing block* for an AP box is the nearest **positioned** ancestor.



#outer is the containing block of #ap.

```
#outer { position: relative; }
#inner { position: static; }
#ap { position: absolute;
      top: 0; right: 0;
    }

<body id="outer">
  <div id="inner">
    <div id="ap">...</div>
  </div>
</body>
```

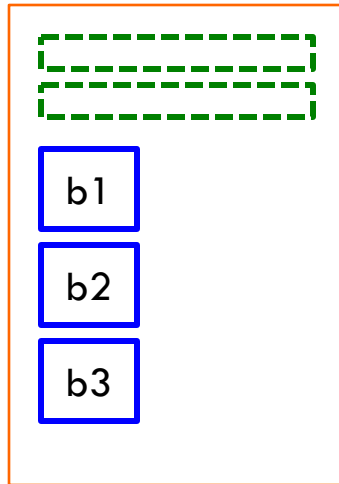

Relative positioning

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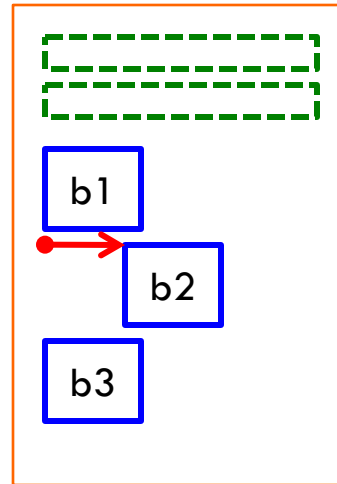
- **Relative positioning** offsets a box from its original position in normal flow
 - ▣ Selected by **position: relative**
 - ▣ The browser first lays out the box in normal flow, then offsets the box from this ‘static position’ according to properties **top, bottom, left, right**
 - E.g. “top:10px” moves the element *down* 10px
 - ▣ Surrounding elements are laid out as if the box is still in normal flow.
 - ▣ Useful in turning a parent into “positioned” when laying out children using absolute positioning

Relative vs. Absolute Positioning

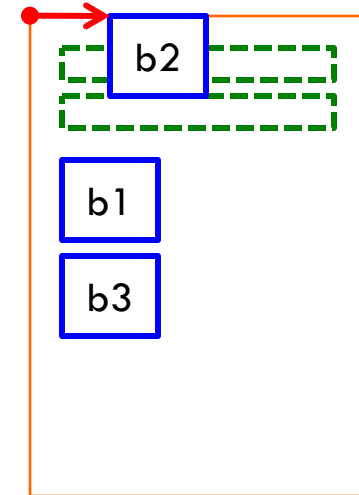
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position: static




position: relative;
left: 20px; top: 0px;



position: absolute;
left: 20px; top: 0px;

 Block box of body
(assume position: relative)

 Block boxes in body

Relative and absolute positioning use different reference points in placing the box. In addition, abs pos removes the element from normal flow completely.

position: fixed

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- This is a special kind of absolute positioning that uses the *browser viewport* as the containing block
 - ▣ Selected by `position: fixed`
 - ▣ Similar to background-attachment: fixed, such box does not scroll with the content of the page
 - E.g. “bottom: 0” means that the bottom of this box touches the bottom of the viewport.

Summary of positioning schemes

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Scheme	How to choose	Box type	Positioning
Normal flow	position: static	inline	left to right, line by line
		block	top down
Floating	float: left / right	block	Vertical position as in normal flow. Push to a side.
Relative positioning	position: relative	inline / block	Offset from position in normal flow (top/right/bottom/left)
Absolute positioning	position: absolute	block	top/bottom sets the vertical position. left/right sets the horizontal position. These properties refer to the nearest positioned ancestor.
	position: fixed	block	Same as position: absolute, except positioning refers to browser viewport.

B. Embedded content

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- Embedded content
 - ▣ `<iframe>` - integrates external HTML content
 - ▣ Lab 6-3



Inline frame <iframe>

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- An inline frame integrates external HTML content into a web page
 - ▣ the iframe works like a small browser window
 - ▣ Displayed in an inline box with the given dimension
 - ▣ Common usage: embed another HTML page from the same site, a YouTube movie, Facebook like button, Google maps

```
<iframe src="http://www.ipm.edu.mo/"  
width="600" height="300" > </iframe>
```

C. Dynamic effects

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- Lab 6-4 and Lab 6-5