

HTML & CSS Handout

English edition

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1 HTML basics

1.1 Your first page

HTML 超文本标记语言 describes a web page with tags 标签. A tag is a word in angle brackets, like `<p>`. Most come in pairs —an opening tag `<p>` and a closing tag `</p>` wrap some content. A tag plus its content is an element 元素.

```
<p>Hello, world!</p>
<p>This is my first web page.</p>
```

- The browser draws whatever is between the tags.
- A tag you forget to close, or spell wrong, may not show correctly.

1.2 Headings & paragraphs

Headings 标题 run from `<h1>` (biggest) down to `<h6>` (smallest). A paragraph 段落 is `<p>`. Use exactly one `<h1>` for the page's main title.

```
<h1>My Blog</h1>
<h2>About me</h2>
<p>I am learning to build web pages.</p>
```

1.3 Text formatting

Make text bold 加粗 with `` and italic 斜体 with ``. A line break 换行 is `
` —it has no closing tag.

```
<p><strong>Warning:</strong> read this carefully.</p>
<p>First line<br>second line</p>
<p>You can <em>emphasise</em> any word.</p>
```

2 Lists, links & images

2.1 Lists

An unordered list 无序列表 `` shows bullets; an ordered list 有序列表 `` shows numbers. Each list item 列表项 is an ``.

```
<ul>
  <li>Apples</li>
  <li>Oranges</li>
</ul>
<ol>
  <li>Wake up</li>
  <li>Go to school</li>
</ol>
```

2.2 Links

A link 链接 is an anchor `<a>`. Its `href` attribute 属性 holds the address it points to.

```
<a href="https://example.com">Visit Example</a>
<br>
<a href="page2.html">Go to the next page</a>
```

- Add `target="_blank"` to open the link in a new tab.

2.3 Images

An image 图片 is `` —it has no closing tag. `src` is the picture's address; `alt` is text shown if the image cannot load (and read aloud to blind users).

```
<img src=
  ↪ "https://upload.wikimedia.org/wikipedia/commons/thumb/6/6b/Bitmap_VS_SVG.svg/120px-Bit
    alt="bitmap versus vector" width="120">
<p>If the picture is missing, the alt text shows instead.</p>
```

3 Page structure

3.1 A complete page

A real page has a fixed skeleton 骨架. `<!DOCTYPE html>` says it is HTML5. Everything sits inside `<html>`. The `<head>` holds information about the page; the `<body>` holds what you see.

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>My Page</title>
  </head>
  <body>
    <h1>Welcome</h1>
    <p>This is a complete page.</p>
  </body>
</html>
```

- The `<title>` shows in the browser tab.
- `<meta charset="utf-8">` lets the page show any language.

3.2 Comments & nesting

A comment 注释 `<!-- ... -->` is a note the browser ignores. Tags nest 嵌套 inside one another; indent 缩进 each level so the structure stays clear. Close tags in the reverse order you opened them.

```
<!-- a simple navigation bar -->
<nav>
  <ul>
    <li><a href="#">Home</a></li>
    <li><a href="#">About</a></li>
  </ul>
</nav>
```

4 Tables & forms

4.1 Tables

A table 表格 `<table>` is built from rows `<tr>`. A header cell 单元格 is `<th>` (bold, centred); a normal data cell is `<td>`.

```
<table border="1" cellpadding="6">
  <tr><th>Name</th><th>Score</th></tr>
  <tr><td>Mei</td><td>88</td></tr>
  <tr><td>Sam</td><td>71</td></tr>
</table>
```

4.2 Forms

A form 表单 `<form>` collects input from the user. An `<input>` is a box; a `<label>` names it; a `<button>` submits 提交 it.

```
<form>
  <label>Name: <input type="text"></label>
  <br><br>
  <label>Age: <input type="number"></label>
  <br><br>
  <button type="submit">Send</button>
</form>
```

- Common `<input>` type values: text, number, email, password, checkbox.

5 Boxes & sections

5.1 div, span & semantic sections

A `<div>` is a generic block 块级 box that groups content on its own lines. A `` is a generic inline 行内 box inside a line of text. You use them to group things so you can style or position them.

```
<div>
  <span>Price:</span> <span>$9.99</span>
</div>
<div>
  <span>Stock:</span> <span>in stock</span>
</div>
```

Semantic 语义 tags describe their role, which helps screen readers and search engines. Prefer them over plain `<div>` where they fit: `<header>`, `<nav>`, `<main>`, `<section>`, `<article>`, `<footer>`.

```
<header><h1>My Site</h1></header>
<main>
  <section>
    <h2>News</h2>
    <p>Today we launched the site.</p>
  </section>
</main>
<footer>© 2026 My Site</footer>
```

6 CSS basics

6.1 Adding CSS

CSS 层叠样式表 styles HTML. The simplest way is a `<style>` block in the `<head>` (a bigger site uses a separate `.css` file with `<link>`). A CSS rule 规则 has a selector 选择器, then `{ property: value; }` pairs called declarations 声明.

```
<style>
  p { color: blue; font-size: 18px; }
  h1 { color: darkred; }
</style>
<h1>Styled heading</h1>
<p>This paragraph is blue.</p>
```

6.2 Selectors: class & id

A class 类 styles many elements: add `class="..."` in HTML and write `.name` in CSS. An id 标识符 styles ONE element: `id="..."` and `#name`.

```
<style>
  .note { color: green; }
  #title { font-size: 24px; }
</style>
<h1 id="title">Welcome</h1>
<p class="note">First note.</p>
<p class="note">Second note.</p>
```

7 Colours & text

7.1 Colours & backgrounds

Set the text colour with `color` and the background 背景 with `background-color`. A colour can be a name (`red`), a hex 十六进制 code (`#ff0000`), or `rgb(255, 0, 0)`.

```
<style>
  body { background-color: #f0f4ff; }
  .card { background-color: white; color: #1e3a8a; padding: 12px; }
</style>
<div class="card">A card with its own colours.</div>
```

7.2 Styling text

Common text properties: `font-size`, `font-weight` (e.g. `bold`), `font-family` 字体, `text-align` 对齐 (`left` / `center` / `right`), and `line-height` for spacing.

```
<style>
  h1 { font-family: Arial, sans-serif; text-align: center; }
  p { font-size: 18px; line-height: 1.6; }
</style>
<h1>Centered title</h1>
<p>Readable paragraph text with comfortable line spacing.</p>
```

8 The box model

8.1 The box model

Every element is a box with four layers, from inside out: the content 内容, the padding 内边距 (space inside the border), the border 边框, and the margin 外边距 (space outside the border).

```
<style>
  .box { background: #dbeafe; border: 3px solid #2563eb;
        padding: 16px; margin: 20px; }
</style>
<div class="box">content + padding + border + margin</div>
```

8.2 Margin & padding

padding adds space **inside** the border, pushing the content inwards. margin adds space **outside**, pushing other boxes away. Give one value for all sides, or four (top right bottom left).

```
<style>
  .a { background: #fde68a; padding: 4px; }
  .b { background: #bbf7d0; padding: 20px; margin-top: 16px; }
</style>
<div class="a">tight padding</div>
<div class="b">roomy padding</div>
```

8.3 Display

The display property sets how a box flows. block 块级 takes a whole line; inline 行内 sits within a line of text; none removes the box completely; flex lays the children in a row (next topic).

```
<style>
  .hidden { display: none; }
  .chip { display: inline; background: #e0e7ff; padding: 2px 8px;
        border-radius: 6px; }
</style>
<p>Visible text. <span class="hidden">(secret)</span> <span class="chip">a
  ↪ chip</span></p>
```

9 Layout

9.1 Width & centering

Set a box's width. To centre 居中 a block, give it a width and `margin: 0 auto` —auto shares the leftover space equally on the left and right.

```
<style>
  .page { width: 300px; margin: 0 auto; background: #e0e7ff;
          padding: 16px; text-align: center; }
</style>
<div class="page">A centered, fixed-width page.</div>
```

9.2 Flexbox

Flexbox 弹性布局 lays children out in a row (or a column). Set `display: flex` on the parent —the container 容器. `gap` adds space between children; `flex: 1` makes them share the width.

```
<style>
  .row { display: flex; gap: 10px; }
  .row div { background: #93c5fd; padding: 12px; flex: 1; text-align:
  → center; }
</style>
<div class="row">
  <div>One</div>
  <div>Two</div>
  <div>Three</div>
</div>
```

9.3 Mini-project: a profile card

Combine boxes, colours, text and spacing into one small component 组件.

```
<style>
  .card { width: 240px; margin: 0 auto; border: 1px solid #cbd5e1;
          border-radius: 12px; padding: 16px; font-family: sans-serif; }
  .card h2 { margin: 0; color: #1e3a8a; }
  .card .role { color: #64748b; margin: 4px 0 8px; }
</style>
<div class="card">
  <h2>Mei Chen</h2>
  <p class="role">Student · Grade 11</p>
  <p>Loves maths and building web pages.</p>
</div>
```