Week 04: HTML

Agenda

- What is HTML5
- HTML document structure
- Inline, Block elements
- Tables, Forms
- Meta tags
- Lightouse, inspect
- Demo
- Hands on: Iteration 3

Let's start!

What is HTML5

- HTML = HyperText Markup Language
- used for web documents
- **not** a programming language
- HTML5 is the latest specification of HTML
  - current standard
  - new tags for semantic only (`<article>`, `<aside>`, `<footer>`)
  - elements for multimedia (`<audio>`, `<video>`)
  - since 2014, previous version from 1997

Document structure

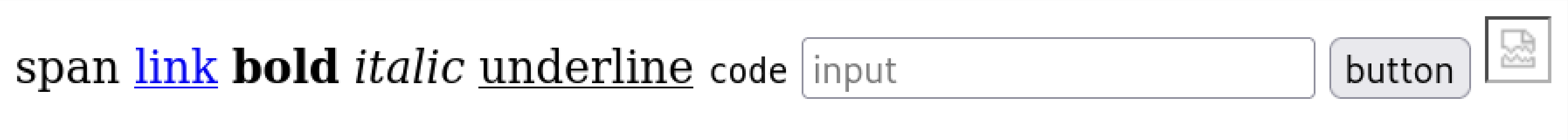
```html
<!DOCTYPE html>
<html lang="en">
  <head>
      <title>A simple HTML document</title>
  </head>
  <body>
      <p>Hello World!<p>
  </body>
</html>
```

Document structure..

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Page title</title>
    <link rel="stylesheet" href="style.css">
  </head>

  <body>
    <header>
      <h1>Header</h1>
    </header>

    <nav>
      <ul>
        <li><a href="#">Home</a></li>
        <li><a href="#">Projects</a></li>
        <li><a href="#">Contact</a></li>
      </ul>
    </nav>

    <main>
      <article>
        <h2>Article heading</h2>
        <p>Lorem ipsum</p>
        <p>Lorem ipsum</p>
      </article>
    </main>

    <footer>
      <p>All rights reversed.</p>
    </footer>
  </body>
</html>
```

Common inline elements

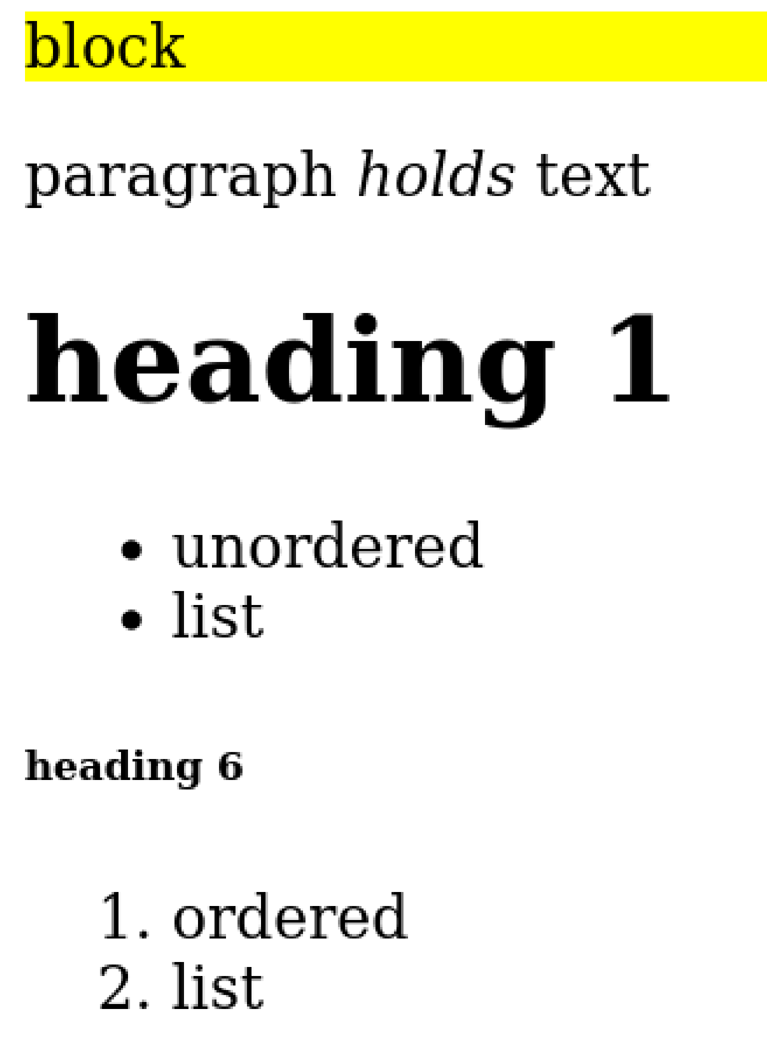
```
<span>span</span>
<a href="http://foo.com">link</a>
<b>bold</b>
<i>italic</i>
<u>underline</u>
<code>code</code>
<input placeholder="input" >
<button type="button">button</button>
<img src="https://notfound">
```



span link **bold** *italic* underline `code`

Block elements

```html
<div style="background: yellow;">
  block
</div>
<p>paragraph <i>holds</i> text</p>
<h1>heading 1</h1>
<ul>
    <li>unordered</li>
    <li>list</li>
</ul>
<h6>heading 6</h6>
<ol>
    <li>ordered</li>
    <li>list</li>
</ol>
```



block

paragraph *holds* text

heading 1

- unordered
- list

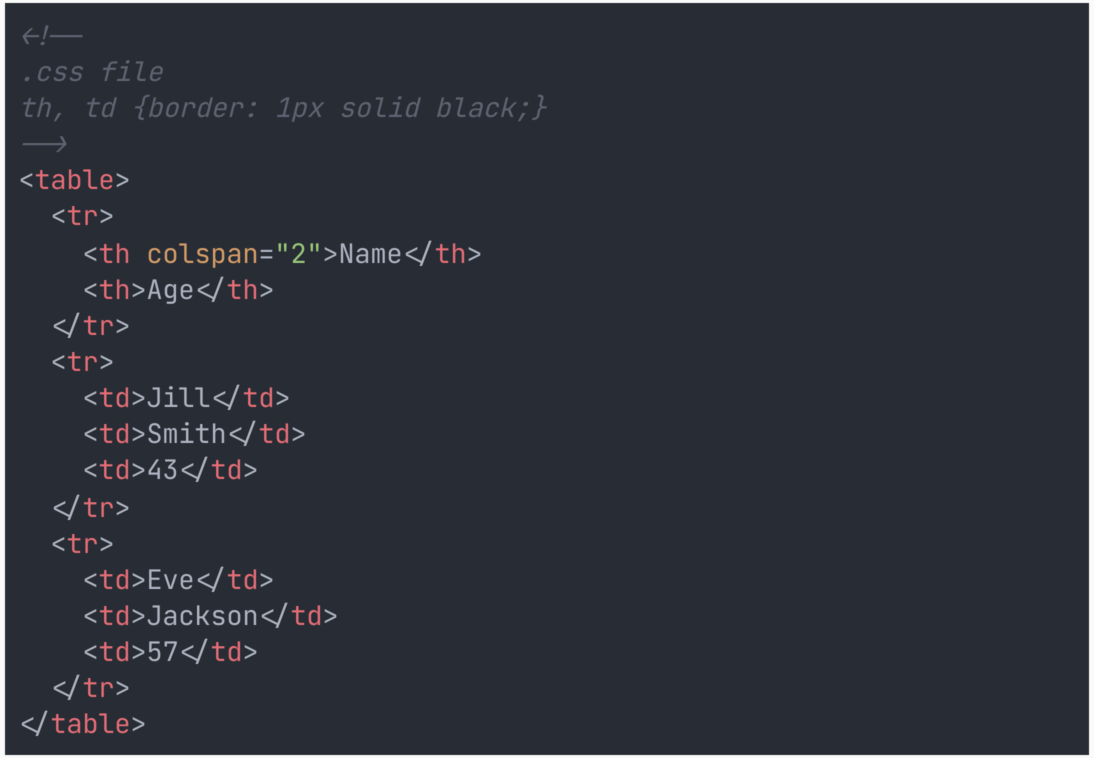
heading 6

1. ordered
2. list

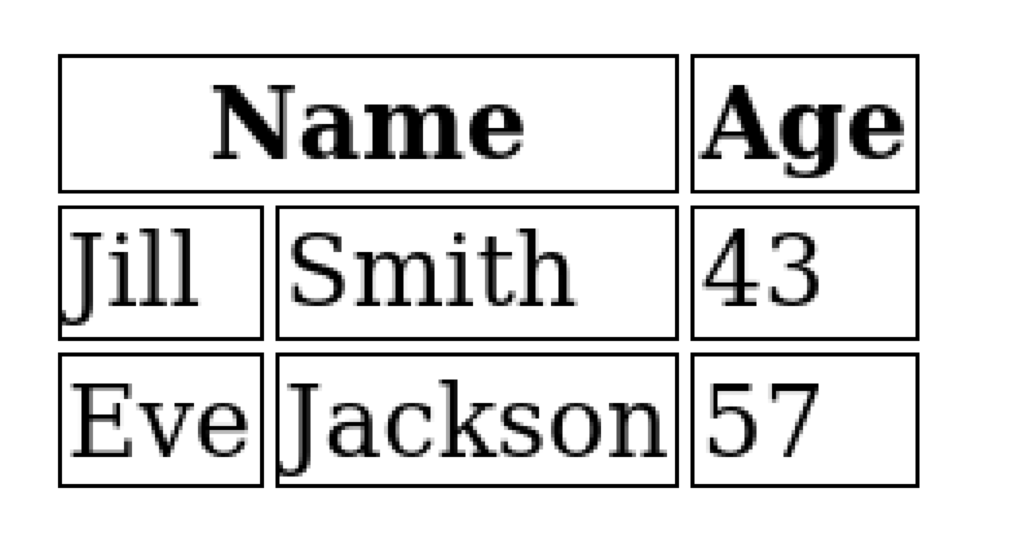
Block vs inline elements

	Block	Inline
width	parent block	content only
break line	yes	no
children	any	inline or text

Tables



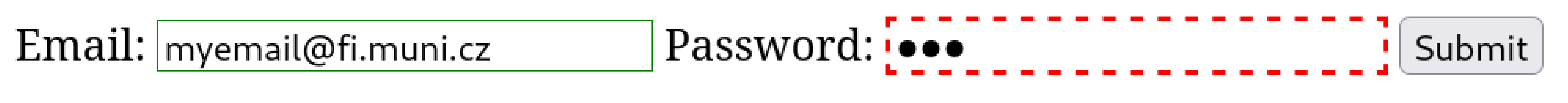
```
<!--
.css file
th, td {border: 1px solid black;}
-->
<table>
  <tr>
    <th colspan="2">Name</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>43</td>
  </tr>
  <tr>
    <td>Eve</td>
    <td>Jackson</td>
    <td>57</td>
  </tr>
</table>
```



Name		Age
Jill	Smith	43
Eve	Jackson	57

Forms

```
<form action="/path/to/handler" method="post">
  <label for="email">Email:</label>
  <input type="email" name="email" required placeholder="john@example.com">
  <label for="password">Password:</label>
  <input type="password" name="password" pattern="[0-9a-fA-F]{4,50}" required/>
  <button type="submit">Submit</button>
</form>

<!--
.css file
  input:invalid { border: 2px dashed red; }
  input:valid { border: 1px solid green; }
-->
```



Email: myemail@fi.muni.cz Password: ●●●

Meta tags

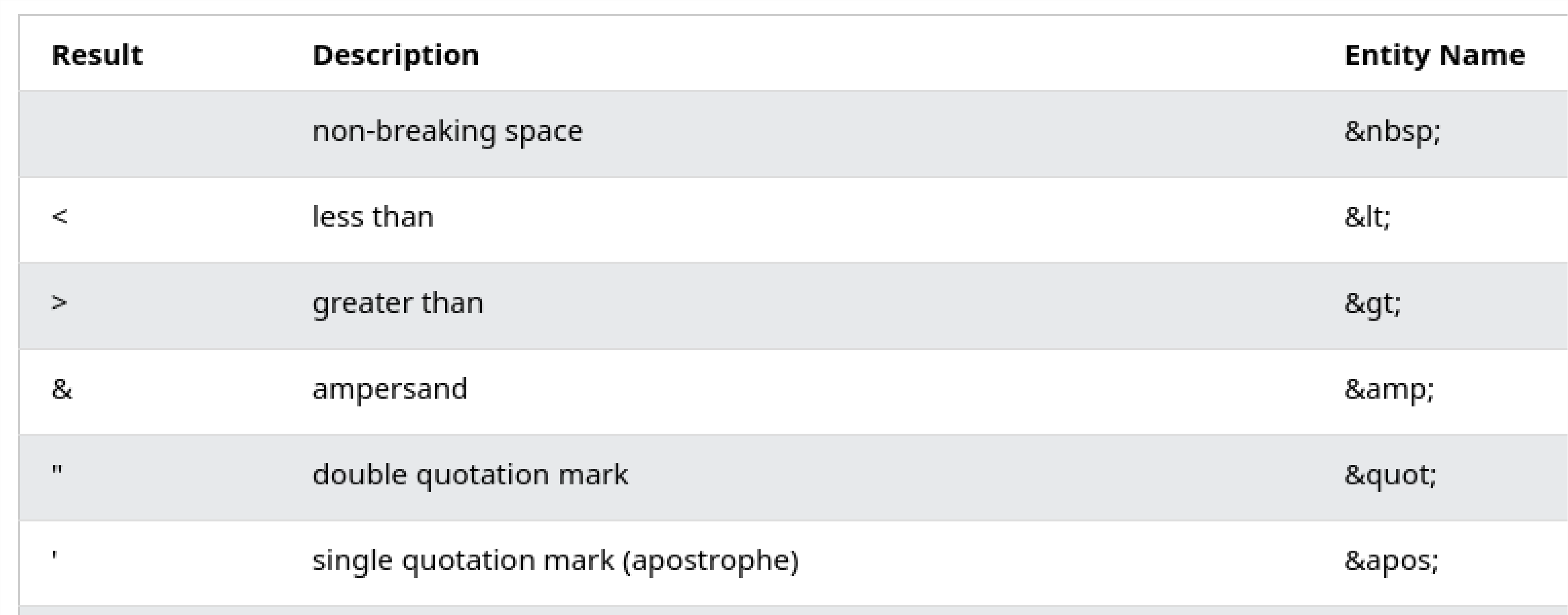
- not readable, for search engines
- page title nad description in search results
- `og:` properties for social media previews
- title, favicon in tab

```html
<head>
  <title>My page</title>
  <meta charset="UTF-8">
  <!-- search engine -->
  <meta name="description" content="Free Web tutorials">
  <meta name="keywords" content="HTML, CSS, JavaScript">
  <meta name="author" content="John Doe">
  <!-- Open Graph protocol / social media previews -->
  <meta property="og:title" content="The Rock" />
  <meta property="og:type" content="video.movie" />
  <meta property="og:url" content="https://www.imdb.com/title/tt0117500/" />
  <meta property="og:image" content="https://ia.media-imdb.com/images/rock.jpg" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="icon" type="image/svg" href="http://example.com/image.svg" />
</head>
```

Reserved characters in HTML

If you use the less than (<) or greater than (>) signs in your text, the browser might mix them with tags.

Character entities are used to display reserved characters in HTML.

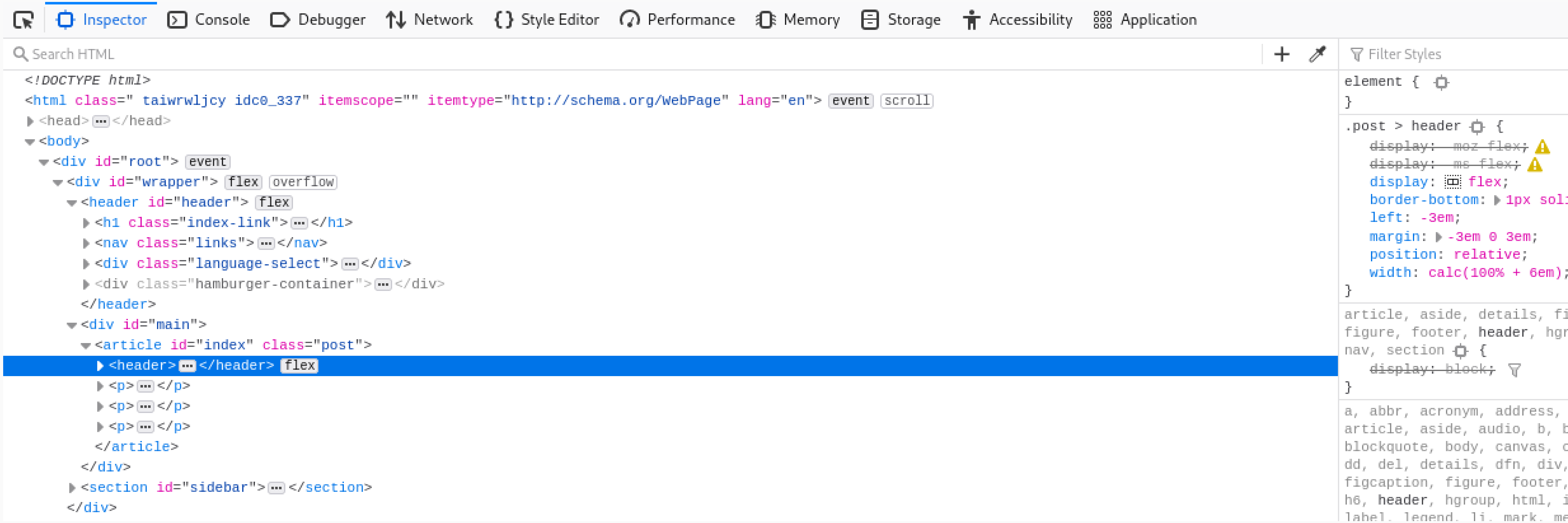


Result	Description	Entity Name
	non-breaking space	&nbsp;
<	less than	&lt;
>	greater than	&gt;
&	ampersand	&amp;
"	double quotation mark	&quot;
'	single quotation mark (apostrophe)	&apos;

Lighthouse demo

https://pagespeed.web.dev

Inspect demo



```
<!DOCTYPE html>
<html class=" taiwrwljcy idc0_337" itemscope="" itemtype="http://schema.org/WebPage" lang="en"> event scroll
 <head>…</head>
 <body>
  <div id="root"> event
   <div id="wrapper"> flex overflow
    <header id="header"> flex
     <h1 class="index-link">…</h1>
     <nav class="links">…</nav>
     <div class="language-select">…</div>
     <div class="hamburger-container">…</div>
    </header>
    <div id="main">
     <article id="index" class="post">
      <header>…</header> flex
      <p>…</p>
      <p>…</p>
      <p>…</p>
     </article>
    </div>
    <section id="sidebar">…</section>
   </div>
```

```
element {
}
.post > header {
   ~~display: -moz-flex;~~
   ~~display: -ms-flex;~~
   display: flex;
   border-bottom: 1px soli
   left: -3em;
   margin: -3em 0 3em;
   position: relative;
   width: calc(100% + 6em);
}
article, aside, details, fi
figure, footer, header, hgr
nav, section {
   ~~display: block;~~
}
a, abbr, acronym, address,
article, aside, audio, b, b
blockquote, body, canvas, c
dd, del, details, dfn, div,
figcaption, figure, footer,
h6, header, hgroup, html, i
label, legend, li, mark, me
```

Demo: Itearation 03

- go through common elements in html document example
- download from interactive syllabus

Questions?

Hands on: Iteration 03

You can find the assignment in Gitlab Issues as well as in the Interactive syllabus.

Before you start:

- please check if your tutor has already accepted your MR
- if they have, make sure you merged your solution from the previous week

Note: if your tutor haven't got to your MR yet, it's completely ok. You don't have to have the previous iteration merged to be able to work on a new one - iterations are independent. However, if you have an accepted MR that is not merged, it's still open and not incorporated in your 'main' branch.