Intro to HTML + CSS

HTML - HyperText Markup language

HTML Structure

HTML is built using `elements`. Some common elements are:

`div` → a container of sorts

`span` → an inline container

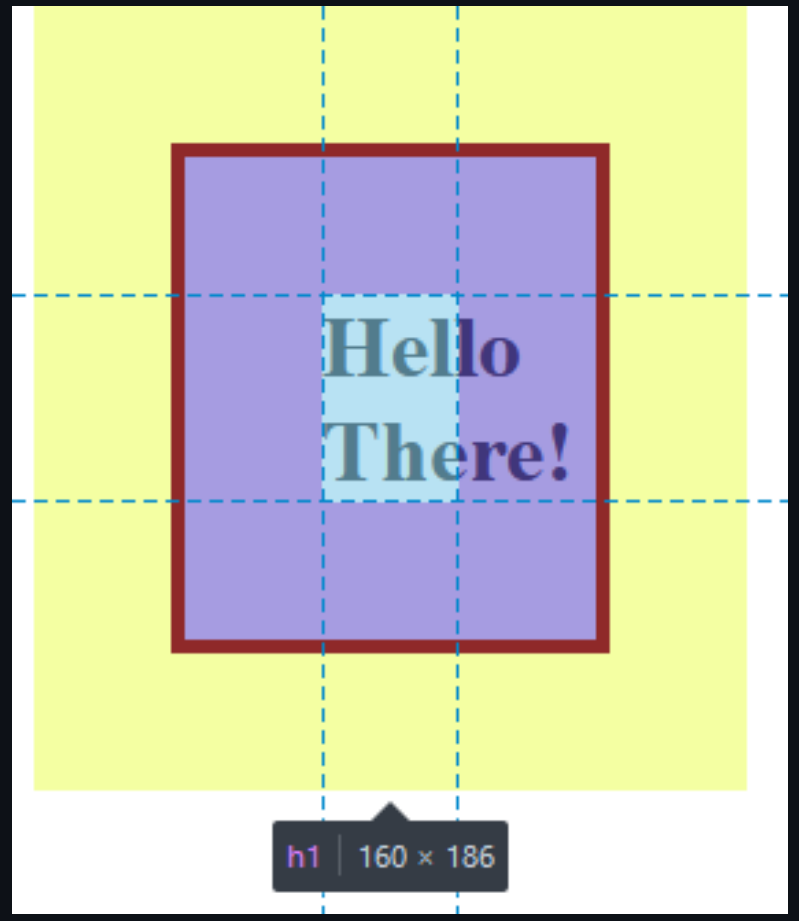
`h1`, `h2`, `h3`, `h4`, `h5`, `h6` → headings

Everything is a box... (mostly)

Every HTML element has a rectangular shape. **A box.**

Each box has 4 regions.

- → Margin
- → Border
- → Padding
- → Content



CSS - Cascading Style Sheets

Why CSS?

CSS allows us to style our webpages by changing the *properties* of certain HTML elements.

```
/* below is a CSS selector - it selects HTML elements */
body {
  background-color: lightblue; /* this is a CSS property */
}

h1 {
  color: white; /* this is a CSS property */
  text-align: center; /* this is a CSS property */
}

p {
  font-family: verdana;
  font-size: 20px;
}
```

Flexbox

Everything is a box (cont'd)

Below are 3 `<div>` elements, height `100px` with a `1px solid black` border.

Hello there!

Hello there!

Hello there!

Everything is a box (cont'd)

Below are 3 `<h1>` elements, with a `1px solid red` border.

Hello there!

Hello there!

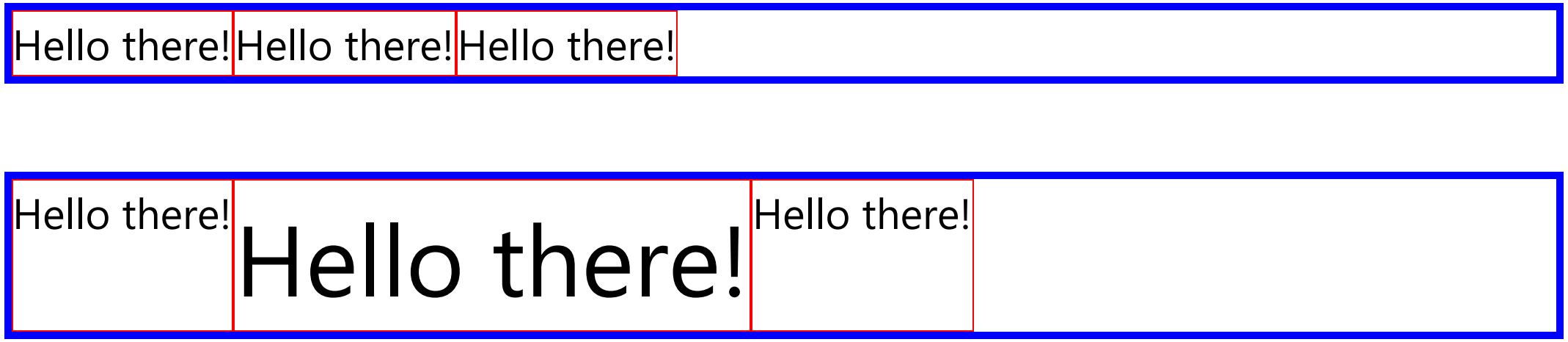
Hello there!

Note how each element fills up all the horizontal space.

Flexbox

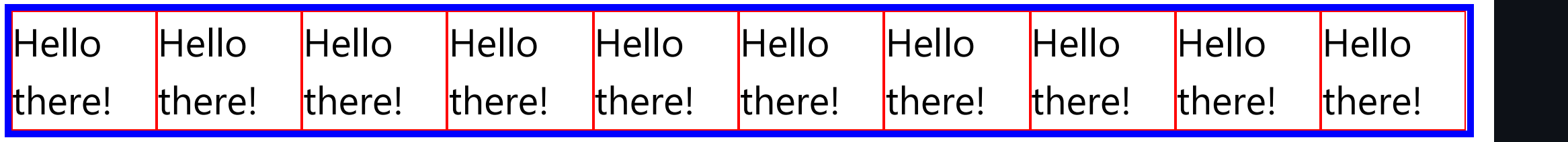
An element with `display: flex;` styling forces all its children to take up the remaining horizontal space.

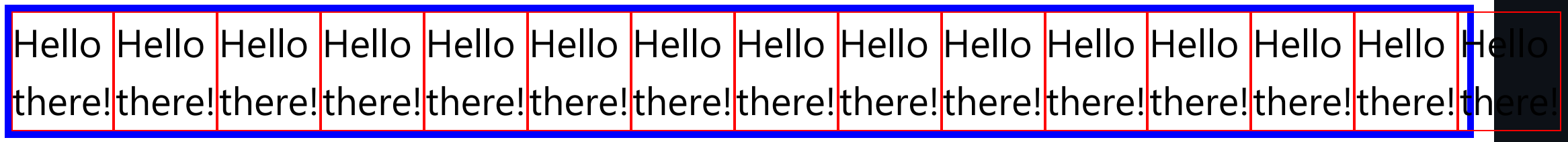
Below are 3 `h3` elements inside a `flexbox` `div` element. Note how taller elements push the flexbox outwards



Flexbox (cont'd)

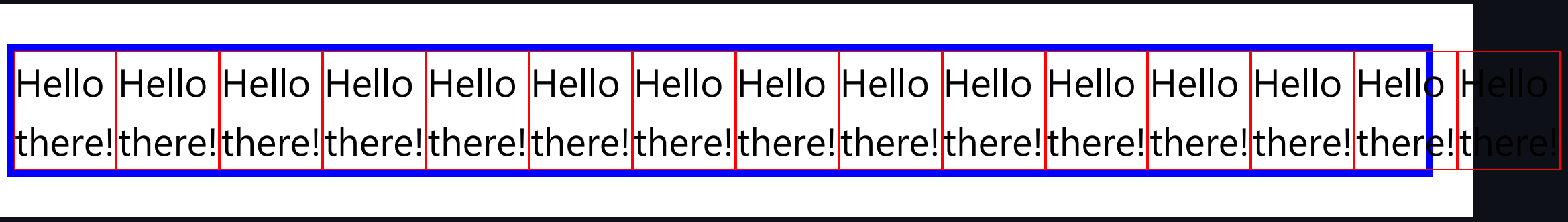
Flexbox will by default always preserve fit everything into the available horizontal space. Any overflow is still inserted an the width of each element is reduced, kind of like compressing. This makes your elements more **responsive**



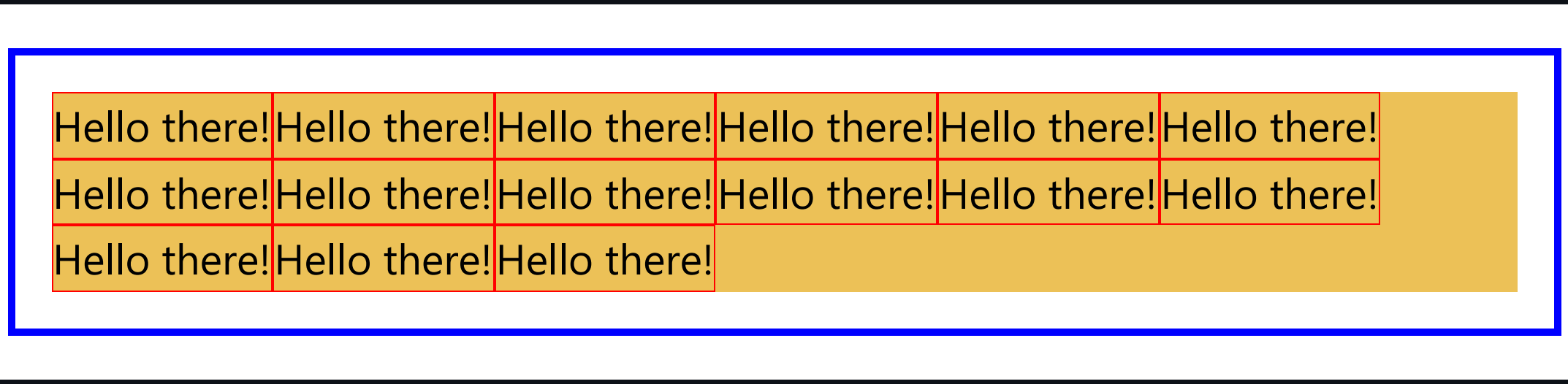


Flex Wrap

We can wrap this overflow using `flex-wrap: wrap;`

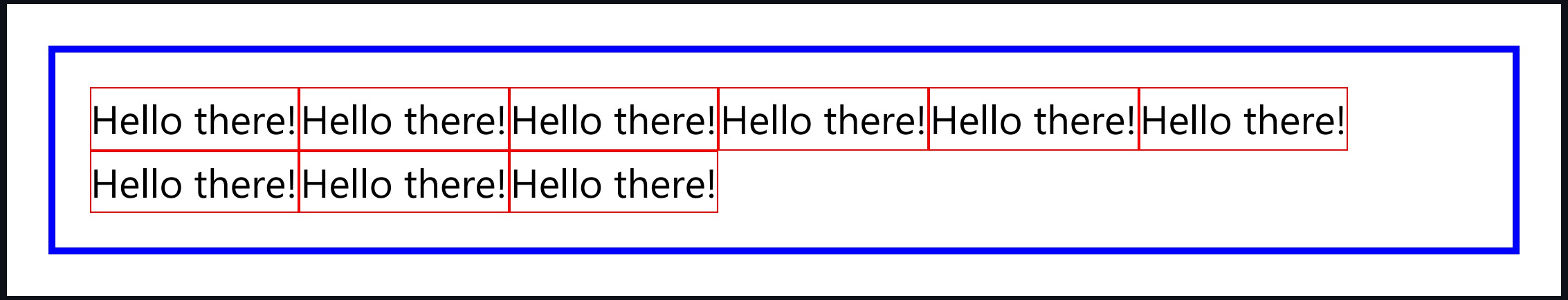


`flex-wrap` wraps any element that will overflow **content box**.

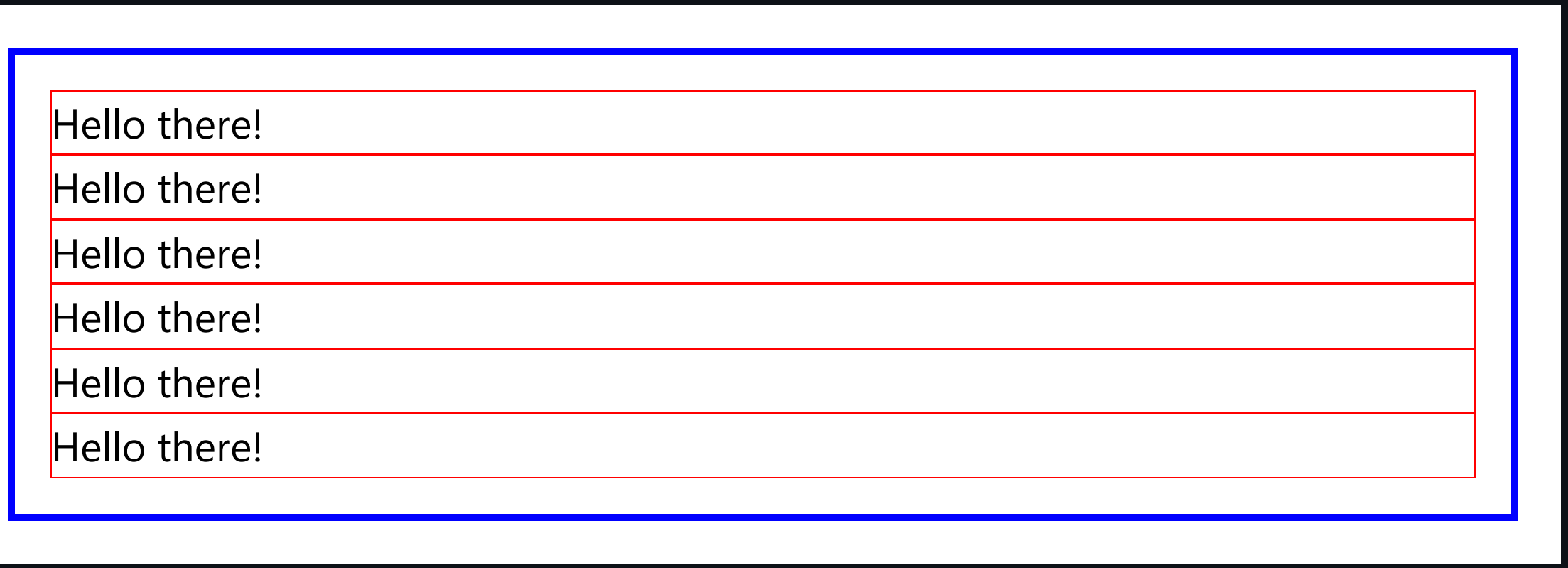


Flex Direction

The `flex-direction` dictates the direction of which elements 'queue up'.
By default, this direction is set to `row` or a horizontal order.

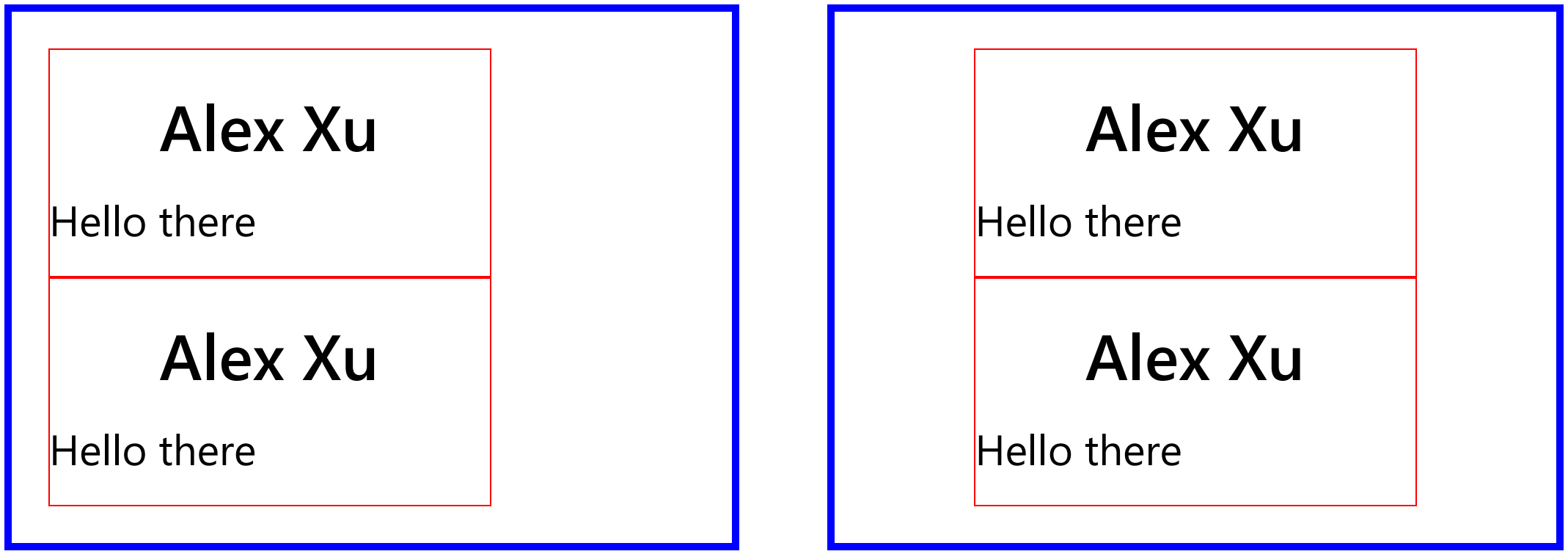


`flex-direction: column`



`flex-direction: column` (cont'd)

You might think `flex-direction: column;` just looks like normal HTML.
But its use case is for aligning more complex, custom elements, especially ones which have a limited width:



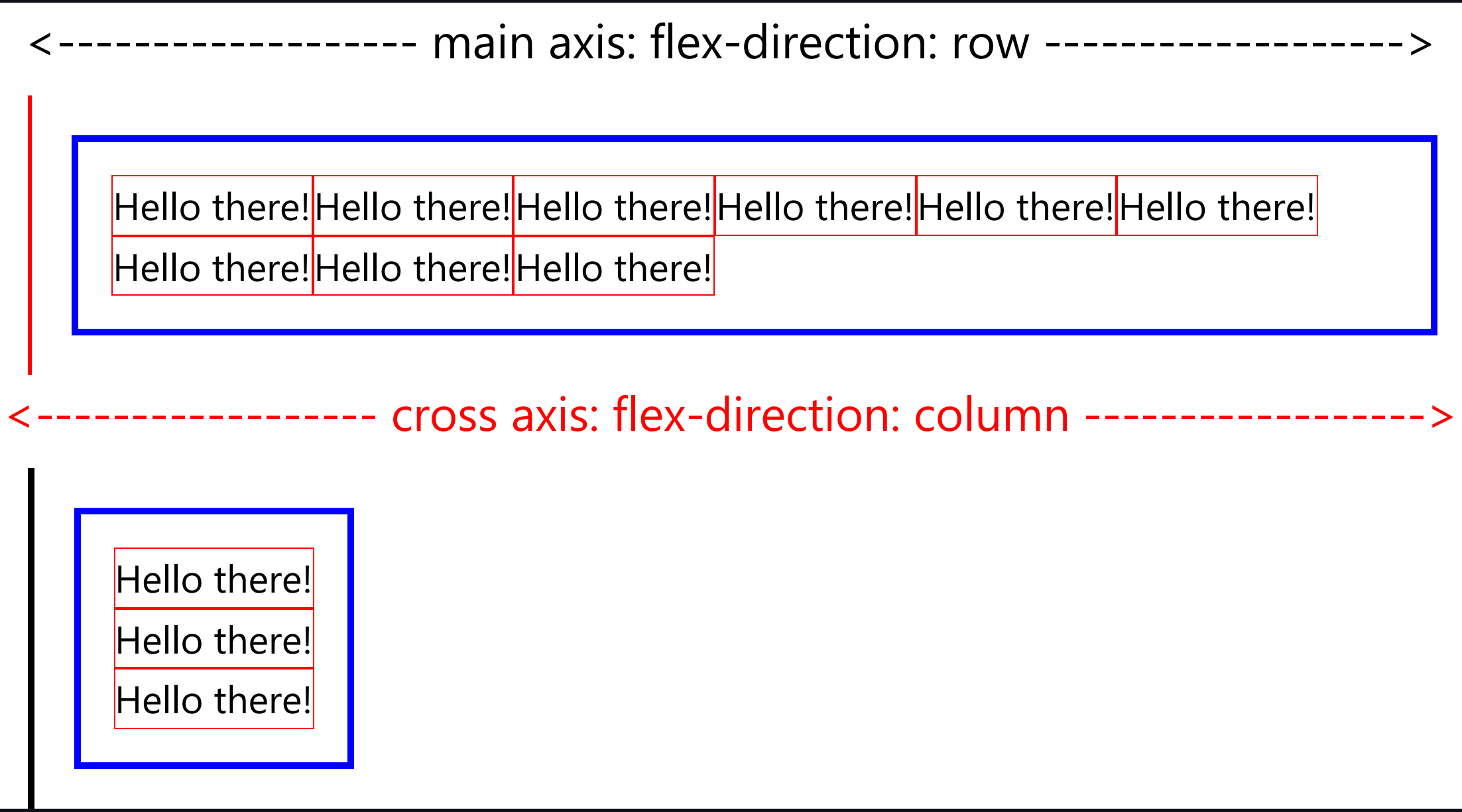
alignment and justification

When using flexbox, you can align and justify the content of the flexbox.
A flexbox has **two** axes:

- → the main axis
- → the cross axis

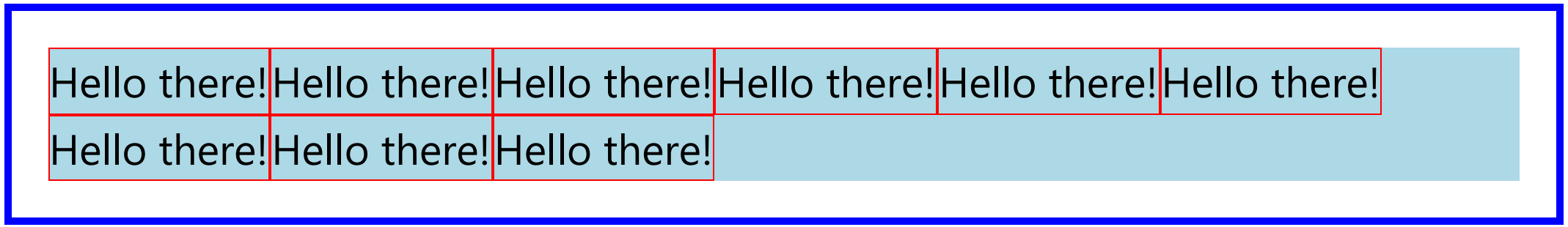
The `main` axis will always be in the direction given by `flex-direction`
The `cross` axis will always be the opposite direction given by `flex-direction`

alignment and justification (cont'd)

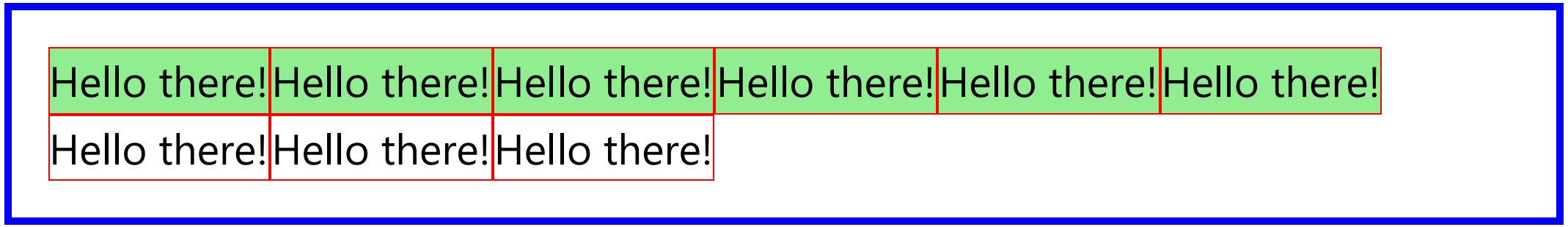


`content` vs `items`

`content` refers to everything inside a flexbox, highlighed in light blue:

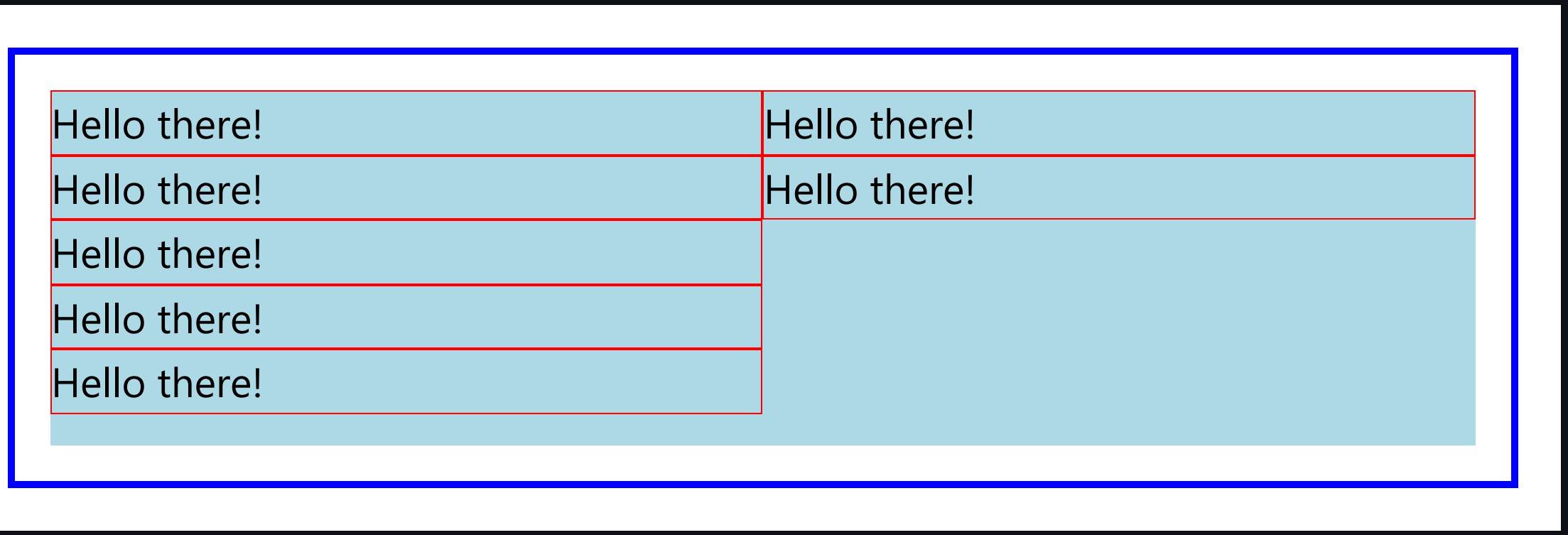


`items` refers to everything inside a flexbox **line**, highlighed in light green:



`content` vs `items` (cont'd)

`content` refers to everything inside a flexbox, highlighed in light blue:



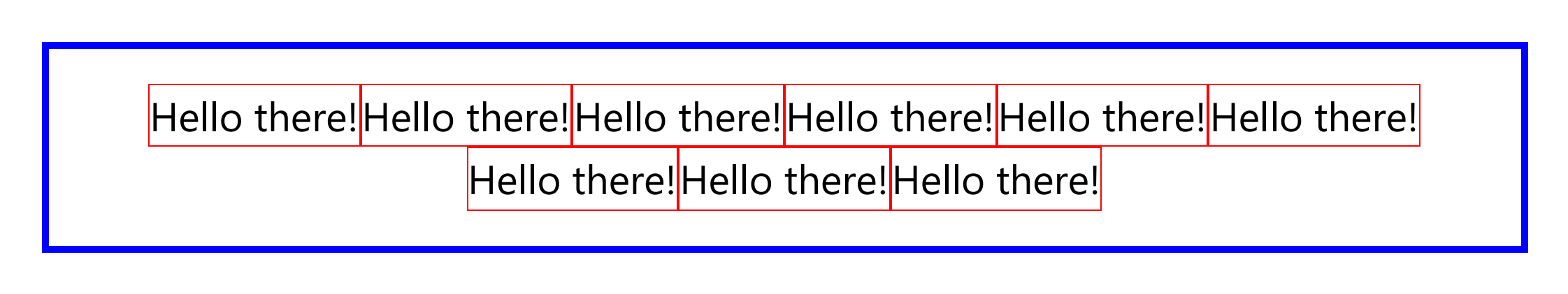
`content` vs `items` (cont'd)

`items` refers to everything inside a flexbox **line**, highlighed in light green:

`justify`

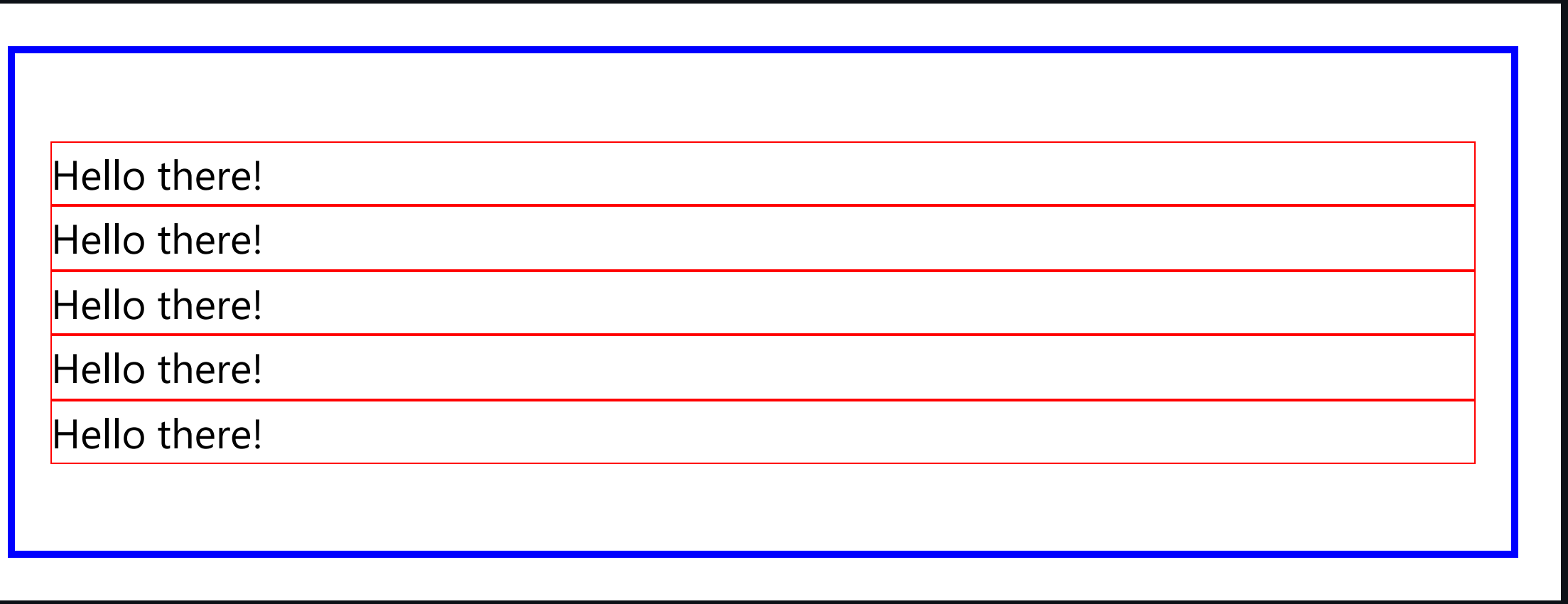
The `justify` prefix refers to the main direction. It always refers to the **main axis**.

`flex-direction: row` & `justify-content: center`



`justify` (cont'd)

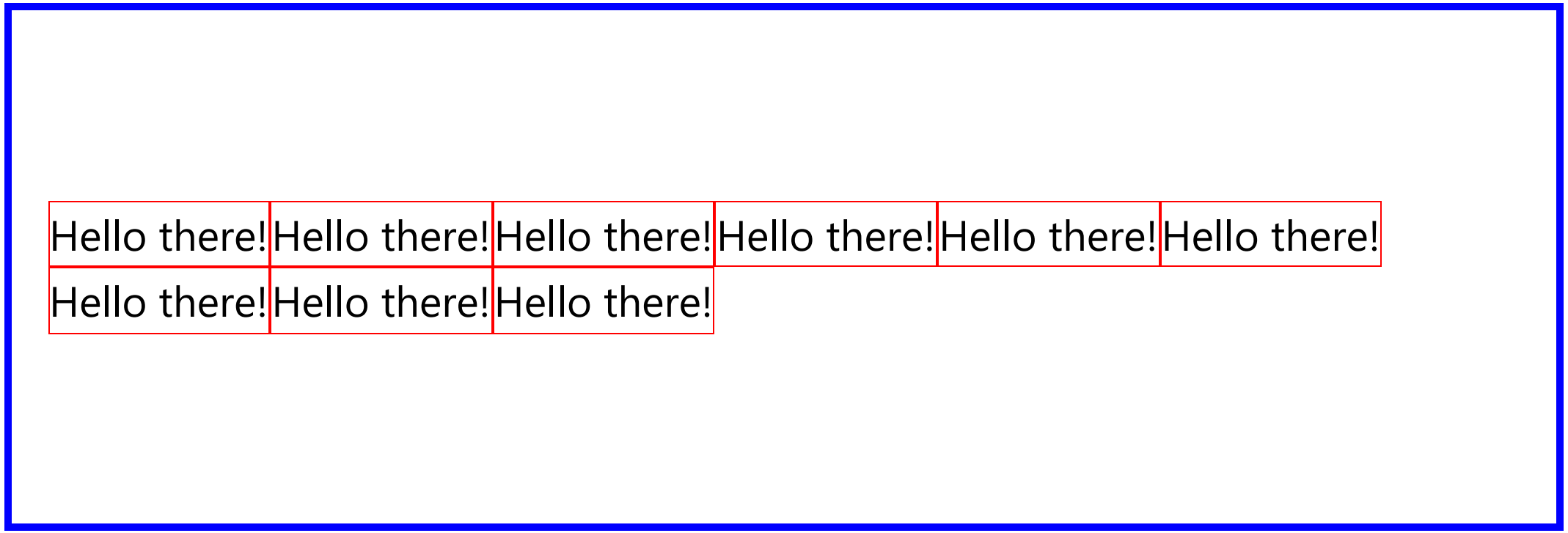
`flex-direction: column` & `justify-content: center`



align

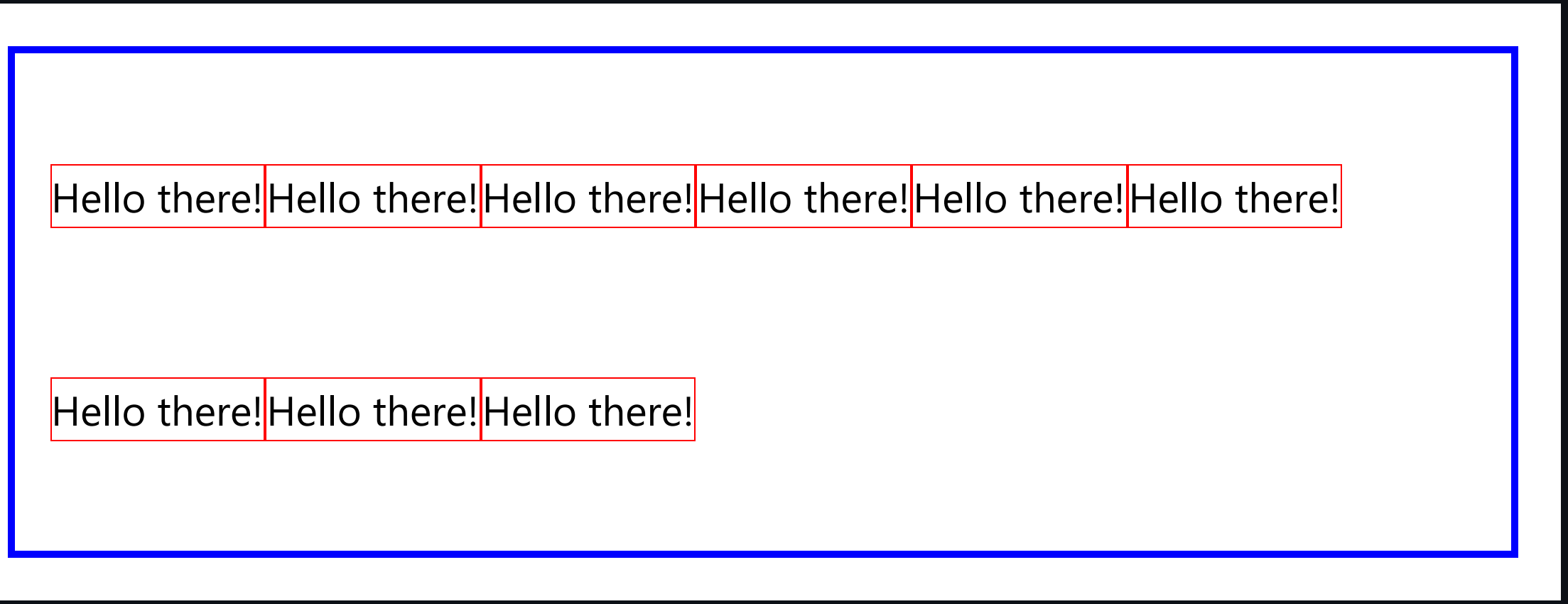
The `align` prefix refers to the cross direction. It always refers to the **cross axis**.

`flex-direction: row` & `align-content: center`



`align` (cont'd)

`flex-direction: row` & `align-items: center`

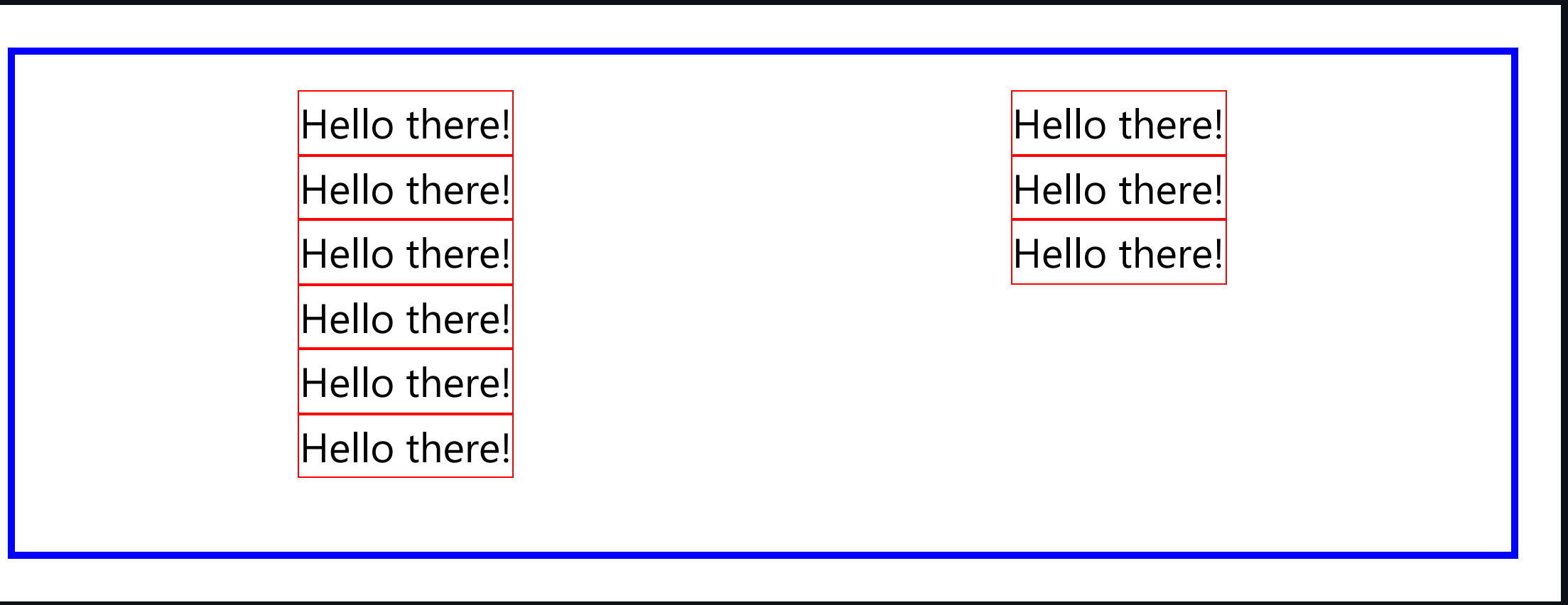


`align` (cont'd)

`flex-direction: column` & `align-content: center`

`align` (cont'd)

`flex-direction: column` & `align-items: center`



📖 Homework

→ go read this: https://css-tricks.com/snippets/css/a-guide-to-flexbox/