

# Creating basic websites

# Anatomy of a Quarto website

## Content



Text



Images



Files

## Content



Text



Images



Files

## Style



CSS



HTML

## Content



Text



Images



Files

## Style



CSS



HTML

## Code



R



Python



OJS





# Page Structure

```
index.qmd
```

```
1 ---  
2 title: "My Cool Document"  
3 format: html  
4 ---  
5  
6 The `gapminder.csv` dataset contains  
7  
8 ````{r}  
9 #| label: fig-neat-plot  
10 library(tidyverse)  
11 library(brand.yml)  
12  
13 df <- read_csv("data/gapminder.csv")  
14  
15 brand <- read_brand_yml("_brand.yml")  
16  
17 ggplot(df, aes(x = gdpPercap, y = lifeExp)) +  
18   geom_point(aes(size = pop, color = continent))
```

Webpages are like any other Quarto document:

1. Start with a YAML header
2. Can include code cells
3. Everything else is markdown content

# Website Structure

A minimal website has two files: `index.qmd` and `_quarto.yml`

- `index.qmd`: Renders to `index.html`, your home page.
- `_quarto.yml`: Controls project and website properties.

When rendered you will get a `_site/` folder. This contains everything needed to serve the site.

# \_quarto.yml

```
_quarto.yml
1 project:
2   type: website
3
4 website:
5   title: "My site"
6   navbar:
7     left:
8       - href: index.qmd
9         text: Home
10
11 format:
12   html:
13     toc: true
```

# Quarto projects

Websites are **Quarto projects**.

All Quarto projects include a `_quarto.yml` file.

This is a Quarto Project.

```
my-folder/  
└── _quarto.yml  
    └── my-document.qmd
```

This is not.

```
my-folder/  
    └── my-document.qmd
```

# Quarto projects

A Quarto project is a *directory* that provides:

- A way to render all or some of the files in a directory with a single command (e.g. `quarto render myproject`).
- A way to share YAML configuration across multiple documents.

# Quarto projects

Not all Quarto projects are websites (though they're typically website-like).

Terminal

```
> quarto create project
# ? Type
#   default
# > website
#   blog
#   manuscript
#   book
#   confluence
```

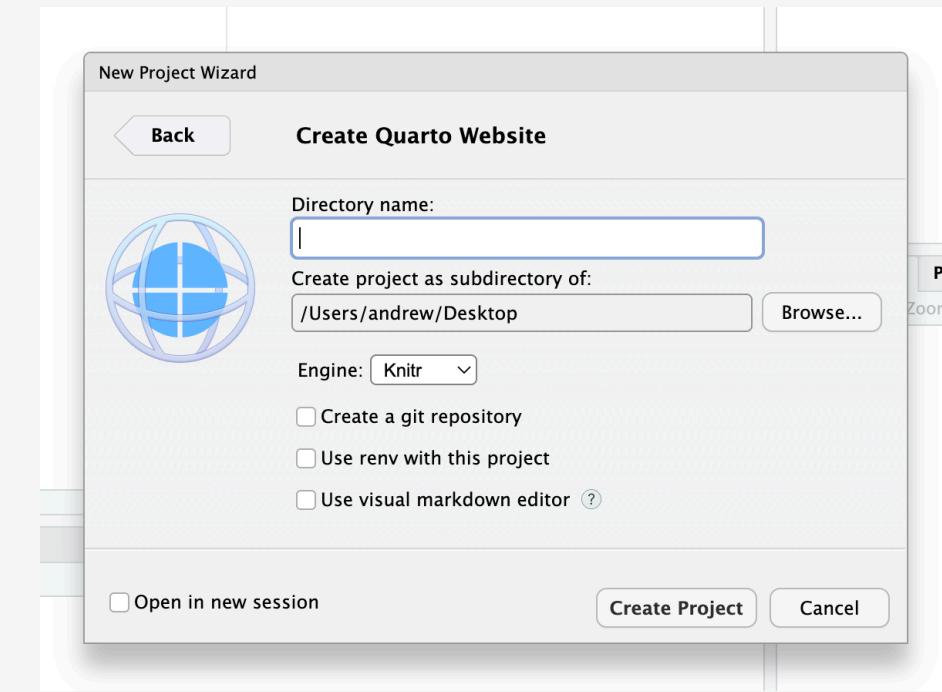
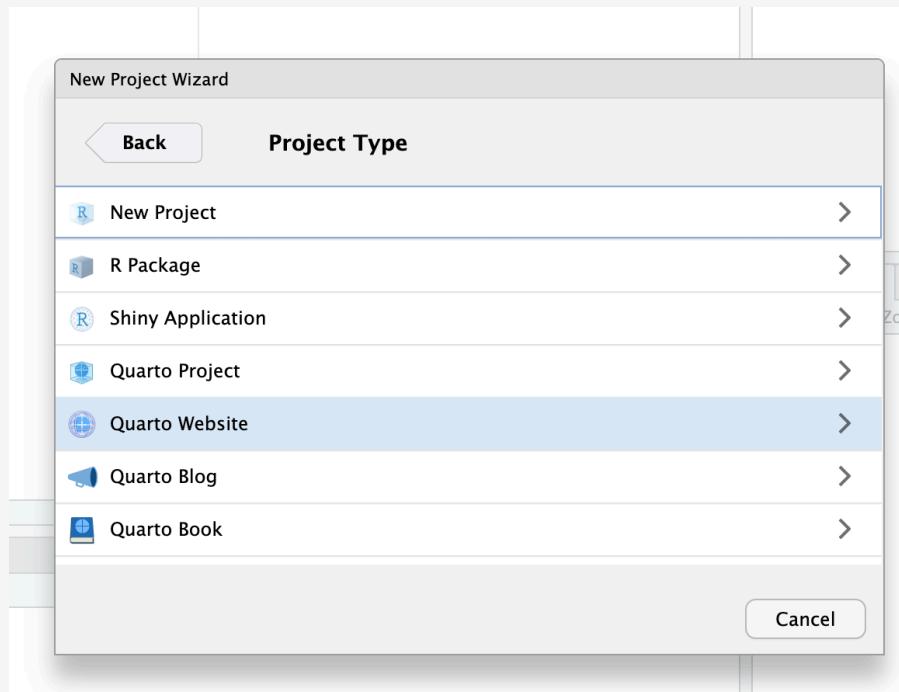
# Creating a project skeleton

RStudio

Positron / VS Code

Terminal

File > New Project > New Directory > Quarto Website



# Creating a project skeleton

```
my-site/
├── _quarto.yml
├── about.qmd
├── index.qmd
└── styles.css
└── testing.Rproj ← if made with RStudio
```



# Your turn

1. Create a new website project somewhere on your computer.

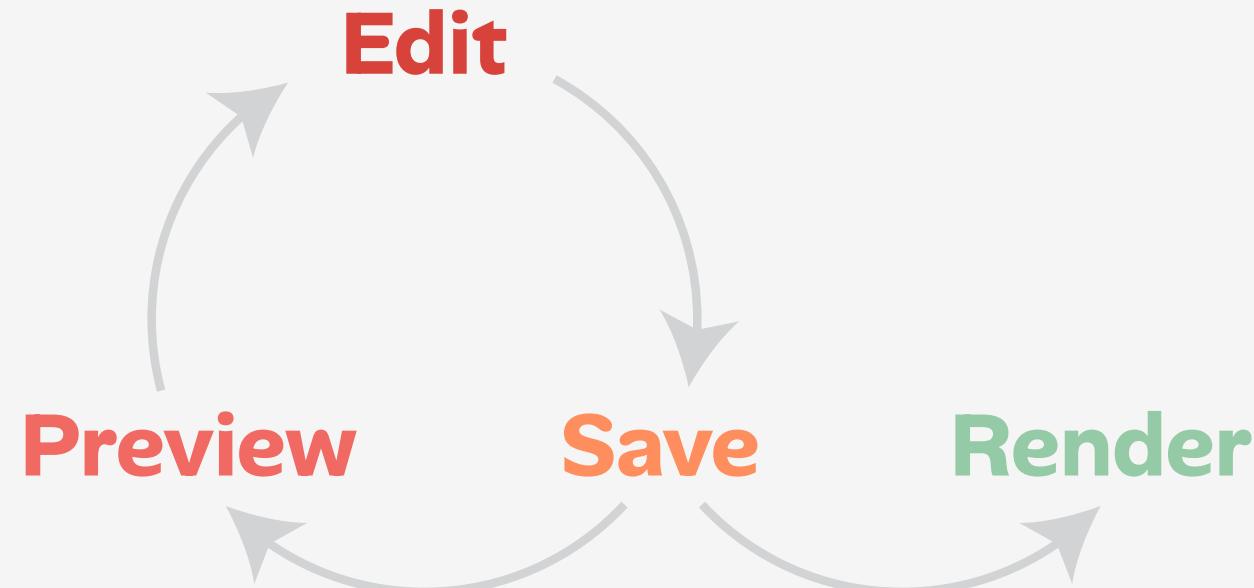
We'll use this as a playground throughout the course.

2. Open the project in RStudio and explore what the different files look like.

03 : 00

# Workflow







# Preview

RStudio

Positron / VS Code

Terminal

## Current page

 Render



⌘ ⌘ K



Ctrl + Shift + K

## Whole site

Build > Render Website

 Render Website

# Your turn

1. Open your playground website.
2. Open `index.qmd` and click Render/Preview.
3. Edit the `title` entry in `index.qmd`'s YAML metadata to something different and add a `subtitle` entry.  
Preview.
4. Add some text to `index.qmd`. Preview.
5. Add an R code chunk to `about.qmd`. Preview.

05 : 00

quarto.yml

# \_quarto.yml

Configure all site-level settings with `_quarto.yml`:

```
_quarto.yml
1 project:
2   type: website
3
4 website:
5   title: "My site"
6   navbar:
7     left:
8       - href: index.qmd
9         text: Home
10
11 format:
12   html:
13     toc: true
```

# Project settings

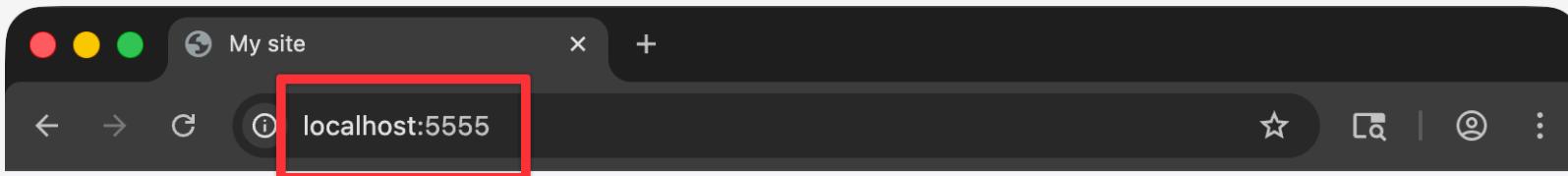
```
_quarto.yml
```

```
1 project:
2   type: website
3   output-dir: _output
4   preview:
5     port: 5555
```

# Project settings

```
_quarto.yml
```

```
1 project:
2   type: website
3   output-dir: _output
4   preview:
5     port: 5555
```



≡ My site



## My site

This is a Quarto website.

To learn more about Quarto websites visit <https://quarto.org/docs/websites>.

# Site settings

```
_quarto.yml
```

```
1 project:
2   type: website
3
4 website:
5   title: "My site"
6   description: "Some neat stuff"
7   cookie-consent: true
8   search: false
9   navbar:
10    left:
11      - href: index.qmd
12        text: Home
13
14 format:
15   html:
16     toc: true
```

# Navigation settings

More on this in a bit!

```
_quarto.yml
1 project:
2   type: website
3
4 website:
5   title: "My site"
6   navbar:
7     left:
8       - href: index.qmd
9         text: Home
10    sidebar:
11      style: "docked"
12    contents:
13      - about.qmd
14
15 format:
16   html:
17     toc: true
```

# Format settings

```
_quarto.yml
```

```
1 project:
2   type: website
3
4 website:
5   title: "My site"
6   navbar:
7     left:
8       - href: index.qmd
9         text: Home
10
11 format:
12   html:
13     toc: true
14     number-sections: true
15     cap-location: margin
```

# Don't memorize this stuff!



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## Website Options

All available options for `website` projects are documented below. See [Creating a Website](#) for an in-depth guide to creating websites with Quarto.

## Project

Options that define the type, render targets, and output of a project. Project options are specified under the `project` key. For example:

```
_quarto.yml
project:
  type: website
  output-dir: _site
```

`title`

`type`

Project type (`default`, `website`, `book`, or `manuscript`)

On this page

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Quarto.org > Reference > Websites

# Your turn

1. Edit your `_quarto.yml` to make the following changes:

- Change the preview port to 5555
- Enable a cookie consent dialog
- Add a site description

2. *Bonus tasks!*

- Add a footer that says “© 2025, Myself”
- Add an announcement bar that says something

## Advice:

- Don’t try to make all these changes at once! Remember the workflow: edit, save, preview, repeat.
- Use the documentation at [Quarto.org](https://Quarto.org) > Reference > Websites

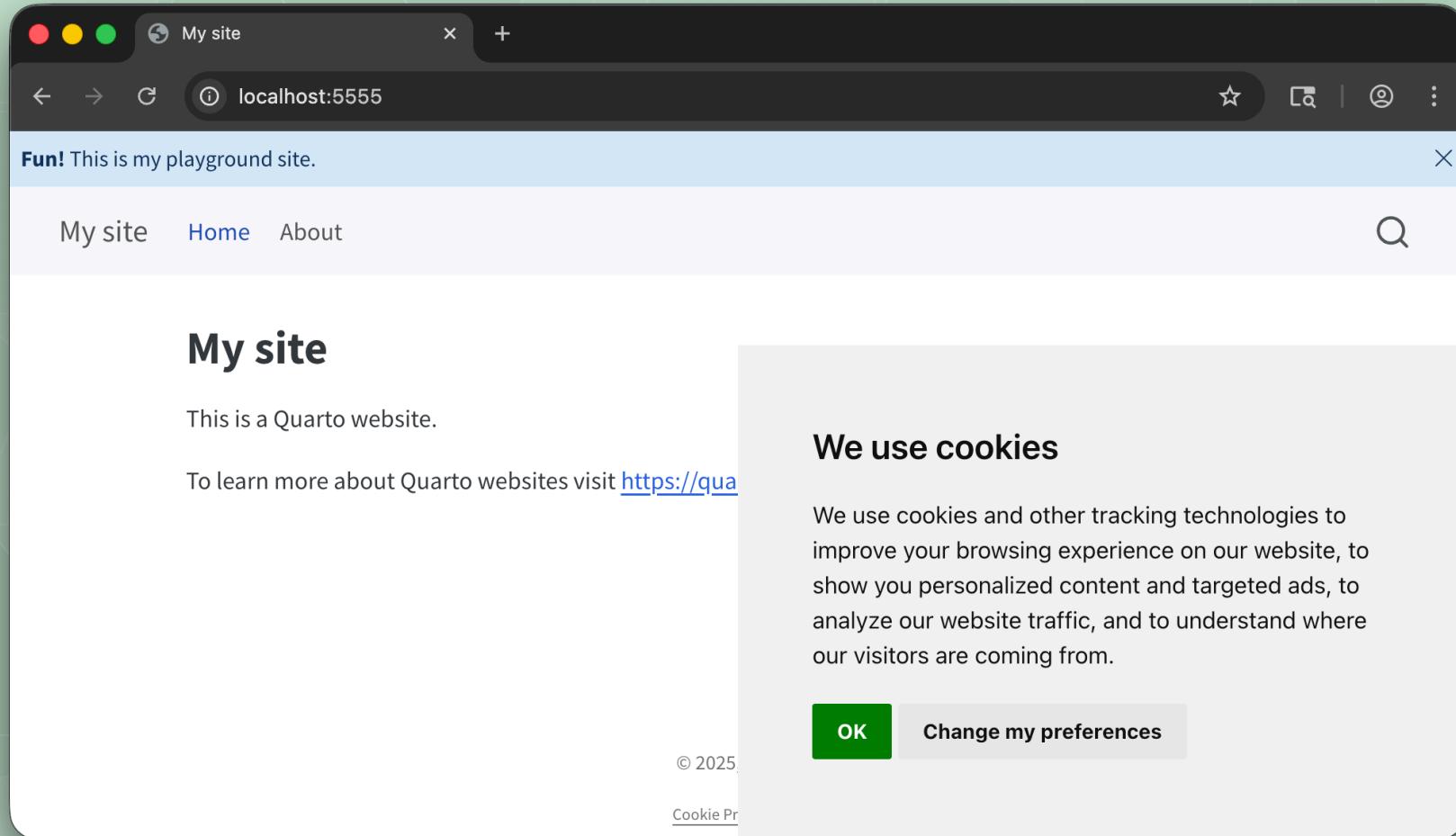
07 : 00

# Answer

```
_quarto.yml
```

```
1 project:
2   type: website
3   preview:
4     port: 5555
5
6 website:
7   title: "My site"
8   description: "Something"
9   cookie-consent: true
10  page-footer: "© 2025, Myself"
11  announcement:
12    content: "★★Fun!★★ This is my playground site."
13 navbar:
14   left:
15     - href: index.qmd
16       text: Home
```

# Answer

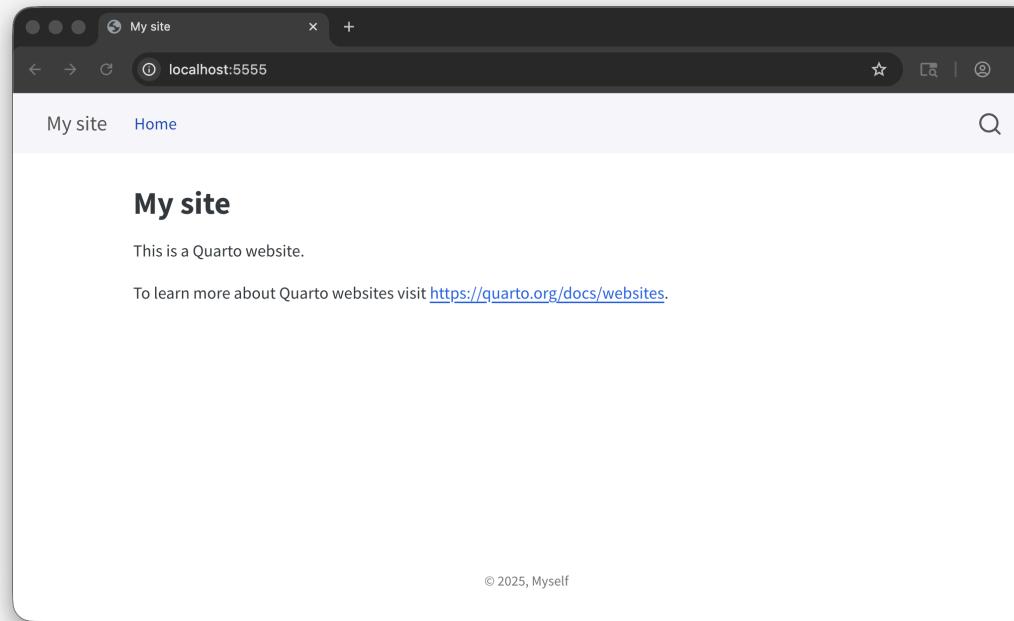


# Navigation

# Top navigation

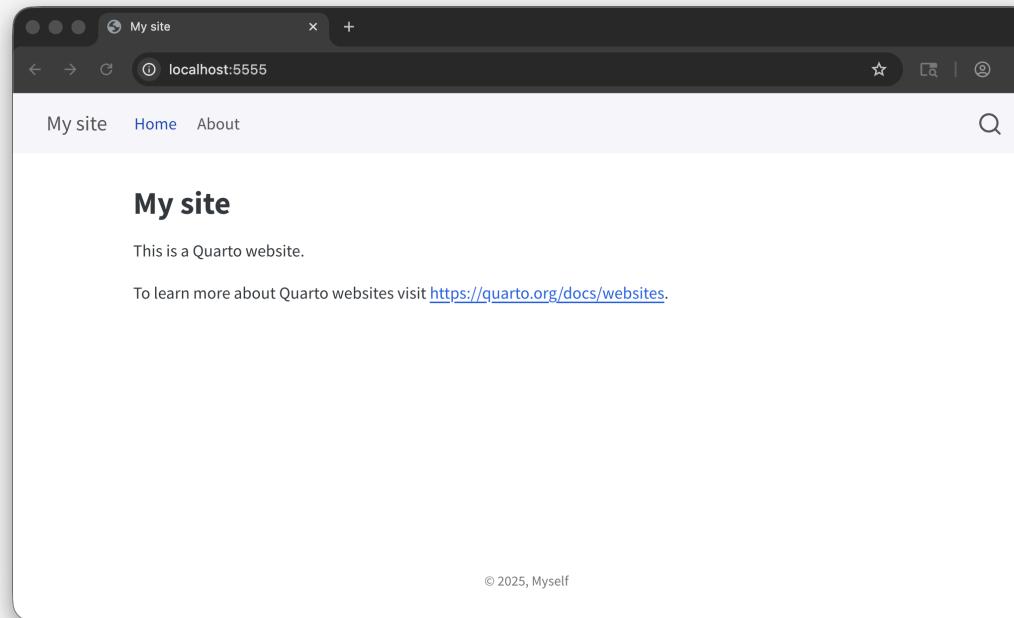
```
_quarto.yml
```

```
1 project:
2   type: website
3
4 website:
5   title: "My site"
6 navbar:
7   left:
8     - href: index.qmd
9       text: Home
10
11 format:
12   html:
13     toc: true
```



# Add new page

```
_quarto.yml
1 project:
2   type: website
3
4 website:
5   title: "My site"
6   navbar:
7     left:
8       - href: index.qmd
9         text: Home
10      - about.qmd
11
12 format:
13   html:
14     toc: true
```



# Entry titles

```
_quarto.yml
```

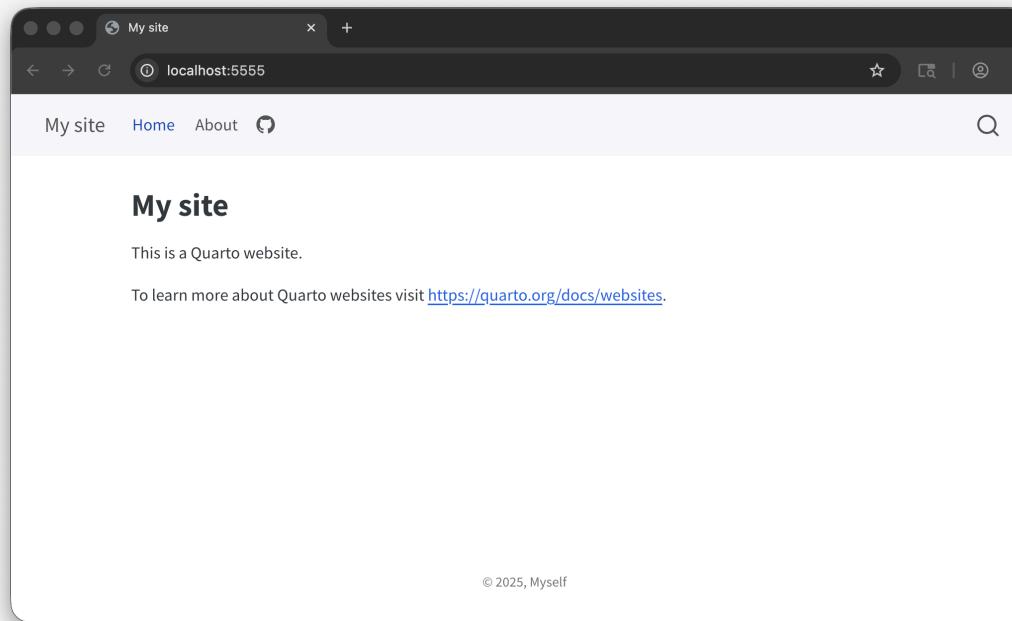
```
1 website:  
2   navbar:  
3     left:  
4       - href: index.qmd  
5         text: Home  
6       - about.qmd
```

- Use `href + text` to control the link title
- Use the `.qmd` filename to use that page's title as the link title

# Icons

```
_quarto.yml
```

```
1 website:  
2   navbar:  
3     left:  
4       - href: index.qmd  
5         text: Home  
6       - about.qmd  
7       - href: https://www.g  
8         icon: github
```

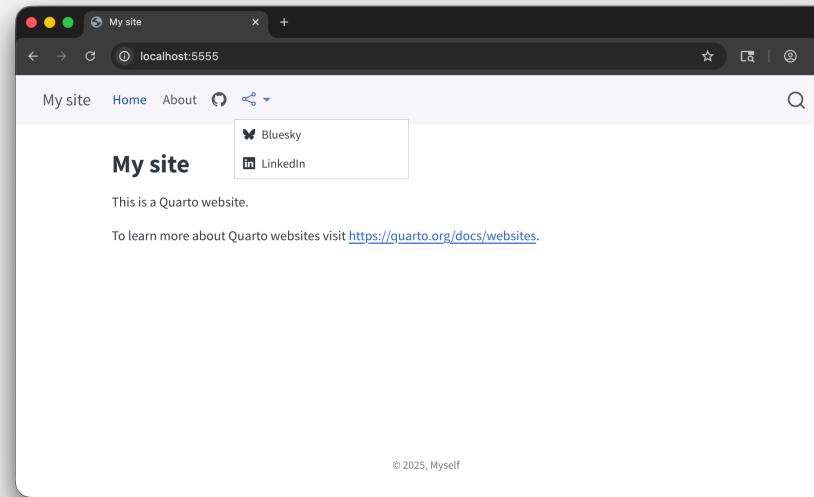


[icons.getbootstrap.com](https://icons.getbootstrap.com)

# Dropdowns

```
_quarto.yml
```

```
1 website:
2   navbar:
3     left:
4       - href: index.qmd
5         text: Home
6       - about.qmd
7       - href: https://www.github.co
8         icon: github
9       - icon: share
10      menu:
11        - href: https://bsky.app/
12          icon: bluesky
13          text: Bluesky
14        - href: https://www.linkedin.com/in/your-linkedin-profile/
15          icon: linkedin
16          text: LinkedIn
```



# Don't memorize this stuff!

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## Website Navigation

### Overview

There are a variety of options available for providing website navigation, including:

- Using top navigation (a navbar) with optional sub-menus.
- Using side navigation with a hierarchy of pages.
- Combining top and side navigation (where top navigation links to different sections of the site with their own side navigation).

In addition, you can add full text search to either the top or side navigation interface.

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### Top Navigation

To add top-navigation to a website, add a `navbar` entry to the `website` config in `_quarto.yml`. For example, the following YAML:

[Quarto.org](#) > [Guide](#) > [Websites](#) > [Website Navigation](#)

# Your turn

1. Create a new file named `contact.qmd` and paste the content from `about.qmd` into it. Then change it to something else.
2. Add `contact.qmd` to the left section of your top navigation bar.
3. Add a right section to the navigation bar with icon-based links to a few other websites.
4. *Bonus task!* Create a dropdown menu in the top navigation bar, either with links to other websites or links to some new `.qmd` pages that you create.

## Advice:

- Don't try to make all these changes at once! Remember the workflow: edit, save, preview, repeat.
- Use the documentation at [Quarto.org > Guide > Websites > Website Navigation](#)

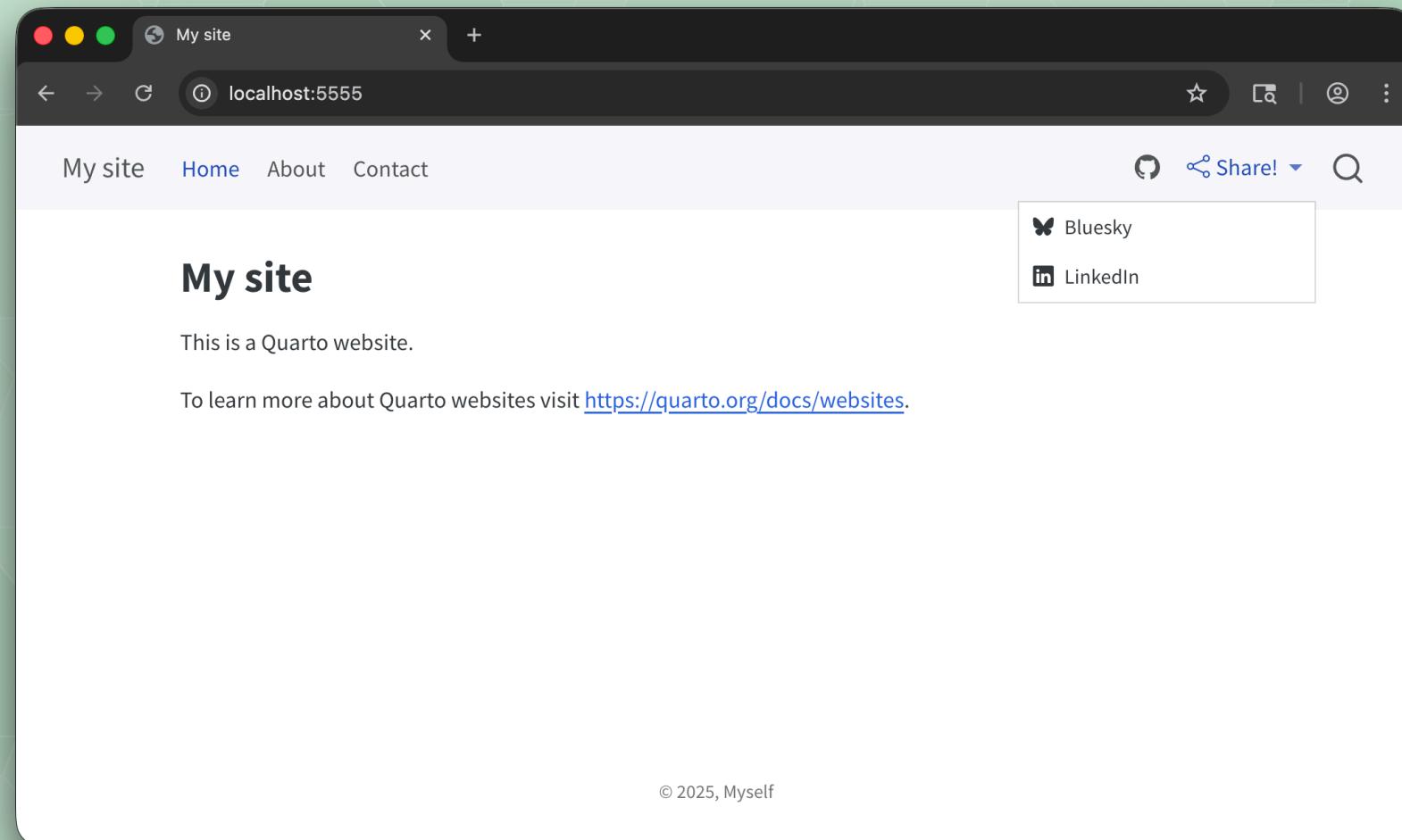
07 : 00

# Answer

```
_quarto.yml
```

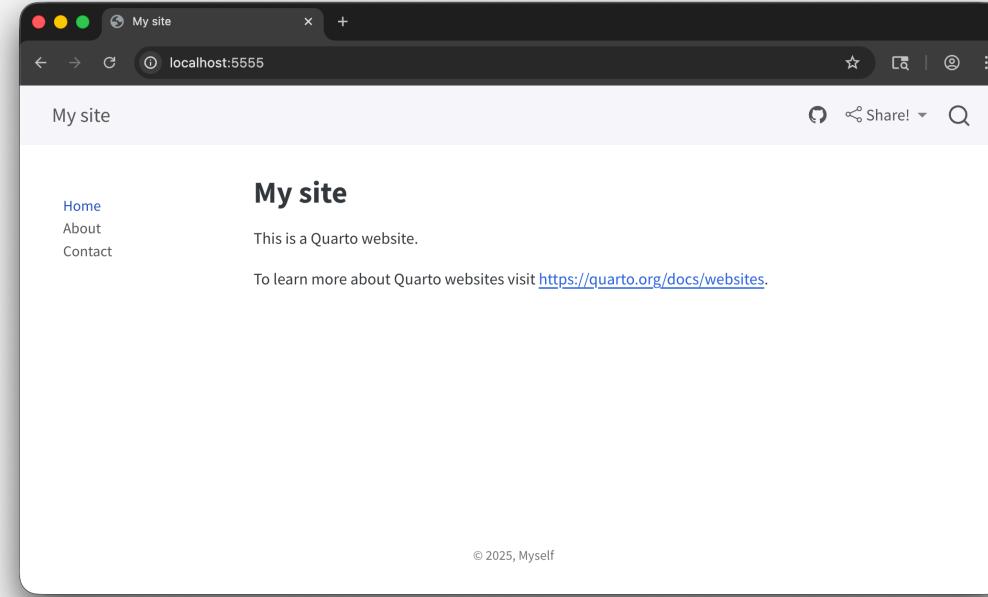
```
1 website:
2   navbar:
3     left:
4       - href: index.qmd
5         text: Home
6       - about.qmd
7       - contact.qmd
8     right:
9       - href: https://www.github.com
10        icon: github
11       - icon: share
12        text: Share!
13     menu:
14       - href: https://bsky.app/
15        icon: bluesky
16        text: Bluesky
17       - href: https://www.linkedin.com/
18        icon: linkedin
```

# Answer



# Side navigation

```
_quarto.yml
1 website:
2   sidebar:
3     contents:
4       - href: index.qmd
5         text: Home
6       - about.qmd
7       - contact.qmd
```



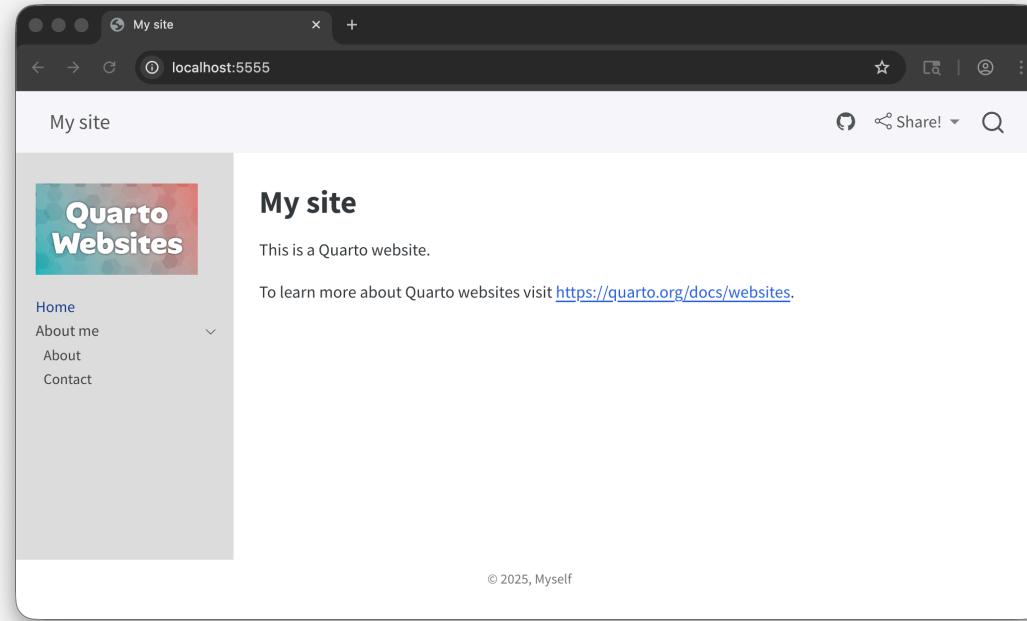
# Side navigation and sections

```
_quarto.yml
1 website:
2   sidebar:
3     contents:
4       - href: index.qmd
5         text: Home
6       - section: About me
7         contents:
8           - about.qmd
9           - contact.qmd
```



# Side navigation and other settings

```
_quarto.yml
1 website:
2   sidebar:
3     style: "docked" # Default
4     background: "#dddddd"
5     logo: img/logo.png
6     contents:
7       - href: index.qmd
8         text: Home
9       - section: About me
10      contents:
11        - about.qmd
12        - contact.qmd
```



# Automatic sidebar

```
_quarto.yml
```

```
1 website:  
2   sidebar:  
3     contents:  
4       - href: index.qmd  
5         text: Home  
6       - section: Research  
7         contents:  
8           - research/project1.qmd  
9           - research/project2.qmd  
10          - research/project3.qmd
```

```
_quarto.yml
```

```
1 website:  
2   sidebar:  
3     contents:  
4       - href: index.qmd  
5         text: Home  
6       - section: Research  
7         contents: research/*
```

# Hybrid navigation

Have a different sidebar for different sections!

```
_quarto.yml
```

```
1 website:
2   navbar:
3     left:
4       - href: index.qmd
5         text: Home
6       - about.qmd
7       - text: "Research"
8         href: research/index.qmd
9     sidebar:
10    - title: "Research"
11      contents:
12        - research/index.qmd
13        - research/project1.qmd
14        - research/project2.qmd
15        - research/project3.qmd
```

# Don't memorize this stuff!

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## Website Navigation

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There are a variety of options available for providing website navigation, including:

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In addition, you can add full text search to either the top or side navigation interface.

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### Top Navigation

To add top-navigation to a website, add a `navbar` entry to the `website` config in `_quarto.yml`. For example, the following YAML:

[Quarto.org](#) > [Guide](#) > [Websites](#) > [Website Navigation](#)

# Your turn

1. Create a folder named `research` and create these files in there: `index.qmd`, `project1.qmd`, `project2.qmd`, and `project3.qmd`
2. Add an entry for `research.qmd` in your top navigation bar
3. Make a sidebar that only appears on the research page that contains links to `index.qmd`, `project1.qmd`, `project2.qmd`, and `project3.qmd`

## Advice:

- Don't try to make all these changes at once! Remember the workflow: edit, save, preview, repeat.
- Use the documentation at [Quarto.org > Guide > Websites > Website Navigation](#)

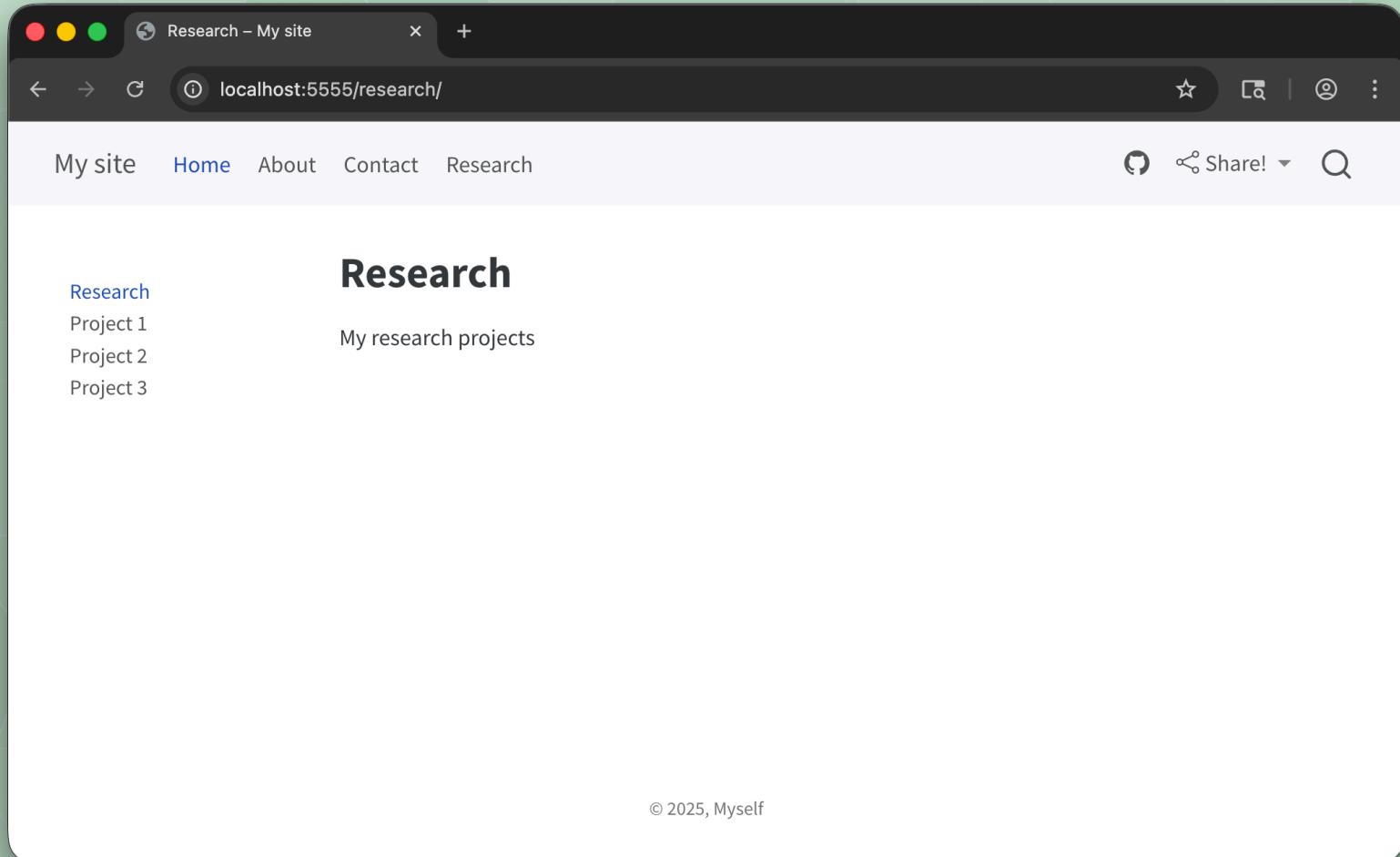
07 : 00

# Answer

```
_quarto.yml
```

```
1 # Excerpt!
2 website:
3   navbar:
4     left:
5       - href: index.qmd
6         text: Home
7       - text: "Research"
8         href: research/index.qmd
9
10 sidebar:
11   - title: "Research"
12     contents:
13       - research/index.qmd
14       - research/project1.qmd
15       - research/project2.qmd
16       - research/project3.qmd
```

# Answer



# Special pages

# YAML-based page settings

Some page types are based on special templates that use information from the YAML metadata.

Two main built-in special page types:

- Listing pages
- About pages

(you can make your own special templates too!)

# Listing pages

More about these in  
the advanced section!

research.qmd

```
1 ---  
2 title: "Research"  
3 listing:  
4   contents: "*.qmd"  
5   type: table  
6 ---
```

The screenshot shows a web browser window titled "Research - My site" with the URL "localhost:5555/research/". The browser interface includes standard navigation buttons, a search bar, and a share button. The page itself has a header with "My site" and "Home" selected. Below the header is a sidebar on the left containing a "Research" section with three items: "Project 1", "Project 2", and "Project 3". The main content area is titled "Research" and contains a heading "My research projects". It features a table with columns for "Title" and "Author", and three rows corresponding to the projects listed in the sidebar. There are also "Order By" and "Filter" dropdowns. At the bottom of the page, a copyright notice reads "© 2025, Myself".

# About pages

```
about.qmd
```

```
1 ---  
2 title: "Ada Lovelace"  
3 about:  
4   template: solana  
5   image: img/ada-lovelace.j  
6   links:  
7     - icon: wikipedia  
8       text: Wikipedia  
9       href: https://en.wiki  
10  toc: false  
11  ---  
12  
13  ## Background  
14  
15  Augusta Ada King, Countess
```

The screenshot shows a web browser window titled "Ada Lovelace - My site". The URL in the address bar is "localhost:5555/about.html". The page content is as follows:

- Ada Lovelace**: A link to the Wikipedia page.
- Background**:  
Augusta Ada King, Countess of Lovelace (née Byron; 10 December 1815 – 27 November 1852), also known as Ada Lovelace, was an English mathematician and writer chiefly known for her work on Charles Babbage's proposed mechanical general-purpose computer, the Analytical Engine. She was the first to recognise that the machine had applications beyond pure calculation. Ada Lovelace is sometimes considered to be the first computer programmer.
- Accomplishments**:  
Between 1842 and 1843, Lovelace translated an article by the military engineer Luigi Menabrea (later Prime Minister of Italy) about the Analytical Engine, supplementing it with seven long explanatory notes. These notes described a method of using the machine to calculate Bernoulli numbers which is often called the first published computer

A portrait of Ada Lovelace is displayed on the right side of the page.

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## About Pages

### Overview

Quarto makes it easy to create a simple about page for an individual or organization. When the `about` option is provided for a document, a special template will be used to layout the content of the current page with a custom layout designed to present a person or organization.

For example:

```
---  
title: "Finley Malloc"  
about:  
  template: jolla  
  image: profile.jpg  
  links:  
    - icon: twitter  
      text: twitter  
      href: https://twitter.com  
    - icon: github  
      text: Github  
      href: https://github.com  
---
```

On this page

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# Your turn

1. Create a basic About page for either yourself or some fictional person.
  - Find an image on your computer or from the internet and add it to your project, either in the root of project, or (better!) in a folder just for images, like `img/`
  - Add links to different websites (with icons!)
  - Try different `template` options
  - Try different `image-shape` options

## Advice:

- Don't try to make all these changes at once! Remember the workflow: edit, save, preview, repeat.
- Use the documentation at [Quarto.org > Guide > Websites > About Pages](#)

07 : 00



# Course outline

-  ~~Intro to Quarto~~
-  ~~Creating basic websites~~
- Advanced website features
- Publishing
- Customization and branding
- Interactivity

# Break!