

GitHub Copilot – HTML/CSS/JS

Website Development With HTML/CSS/JS and Copilot

Environment:

Since we are going to work with HTML, CSS, JavaScript, there is no setup to begin with. You just need to decide on a folder to create your files.

You do not need GitHub Copilot Professional to get a lot from this bootcamp but it does help to have it installed. There is a free *limited* version. Here are the instructions for that version:

<https://docs.github.com/en/copilot/managing-copilot/managing-copilot-as-an-individual-subscriber/getting-started-with-copilot-on-your-personal-account/getting-started-with-a-copilot-plan#accessing-copilot-free>

Although the environment that I am using is a HTML/CSS/JS/web development one, the ideas presented can be adapted to any programming environment. In the beginning we will use the Ask mode of Copilot.

Part 01: Folder Setup

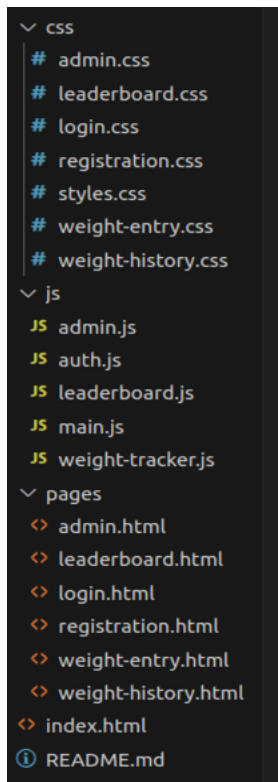
Decide on a folder to start from, e.g. Documents. Open VS Code, you don't have to navigate to a folder yet. Once in VS Code sign in to your GH Copilot account. Sign in to Copilot.

The website we are going to build is based on a friendly competition we usually have in the office where I work. The idea is to find the employee who can lose the most weight during a certain period, usually around Christmas time in the west. Each competitor will sign up and each day they come into the office, the employee will weigh herself and enter that weight and date into the form. At the end of the period, an administrator will do some calculations and figure out the top three weight losers.

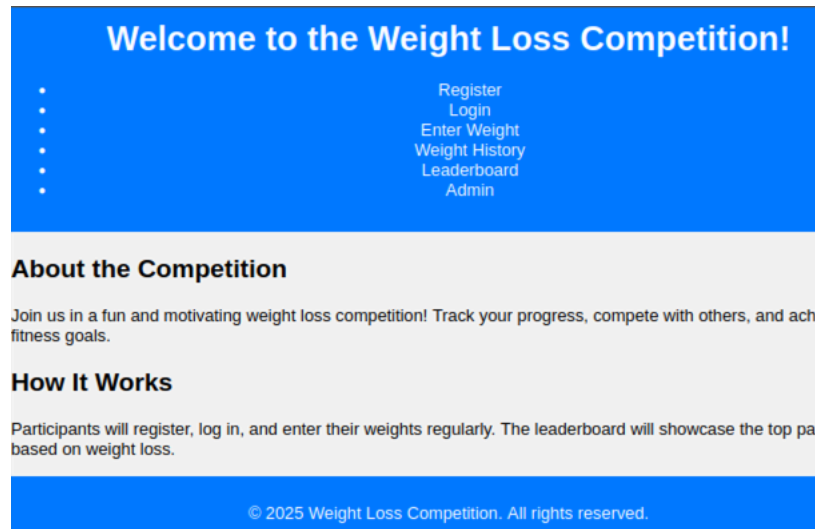
Type in your first prompt in the Chat window. For this prompt, we will use the Ask mode of GitHub Copilot as well as the GPT 4.1 if available. Note, the actual model you use will vary based on your subscription level and environment. If you are not sure, just use the default. Here is the prompt:

Help me develop a website for a weight loss competition using only HTML, CSS and JavaScript. This is a company friendly competition we have among the employees. We want a home page, a registration page, a login page, a page to enter weights based on login information, a page for each employee to view a history of weights they entered and a page to show the top three employees who have lost the most weight during the period. There should also be an admin page that would handle the calculations.

Here is the response that I got on my Linux VM.



As you can see, the entire website is already build, just from one prompt. This is what the site looks like now. Remember there will be several versions of this image, almost each participant trying this will get a slightly different result:



We can start right away by fixing the menu, here is my prompt:

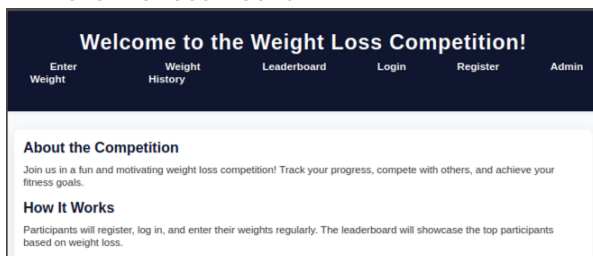
Restructure the menu, I want a horizontal menu with this order: Enter Weight, Weight History, Leaderboard, Login, Register and Admin

Now I will try to get the site to look like one of the companies in the group of companies that Skillsoft owns:

Add a general style and theme to the website, follow the theme on this website: <https://www.codecademy.com/>

Lets also make the site a bit more responsive:
Make the site responsive.

This is the result so far:



Part 02: Home Page

Lets now try to enhance the home page.

Add an aside to the index.html page to show links to 10 healthy recipes. Place the aside on the right side of the web page. Give it rounded borders and a background color to separate it from the main part of the home page.

The task was complete but I had to nudge it a bit, I wanted the aside to appear on the right side of the main content area:

Make the aside occupy the right side of the page like a column

That worked but I had to ask it to remove the bullet points next to the recipes

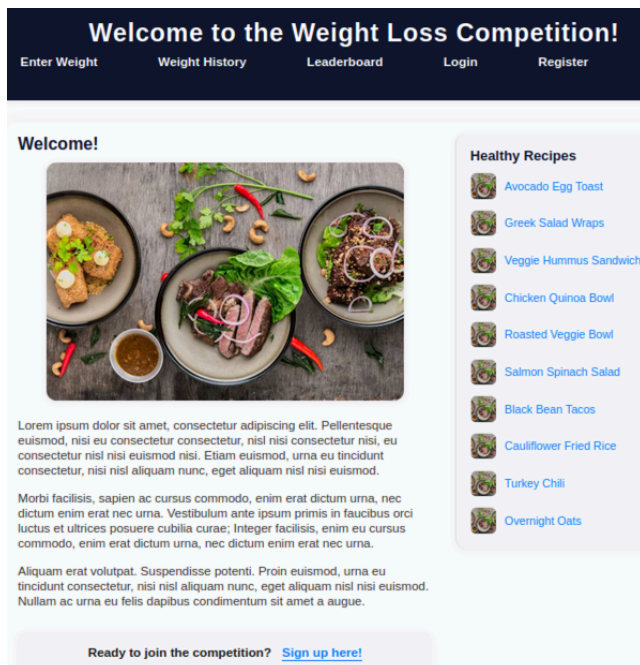
I also had to prompt the tool to just repeat the first image since a few of the images were of people, not food

Lets also try to fill up the main content area with dummy text:

Fill up the main-content area with three paragraphs of lorem ipsum text and include a larger image of food

Finally lets add a message to join the competition:

below the last paragraph add a message to sign up and add a link to the register page



In my case, I did have some problems with the menu. I asked Copilot to diagnose and fix the problem.

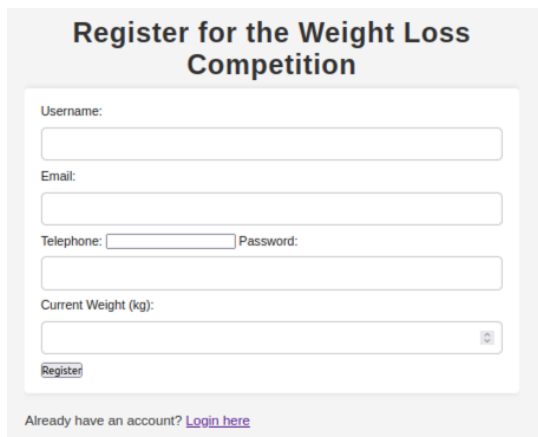
Part 03: Registering

Lets now try to build the register page. Since this is just a browser based application at the moment, there will not be a database involved.

Here is my first prompt:

Create the register page, we want to collect the following data: username, email, telephone, password and current weight in kilograms.

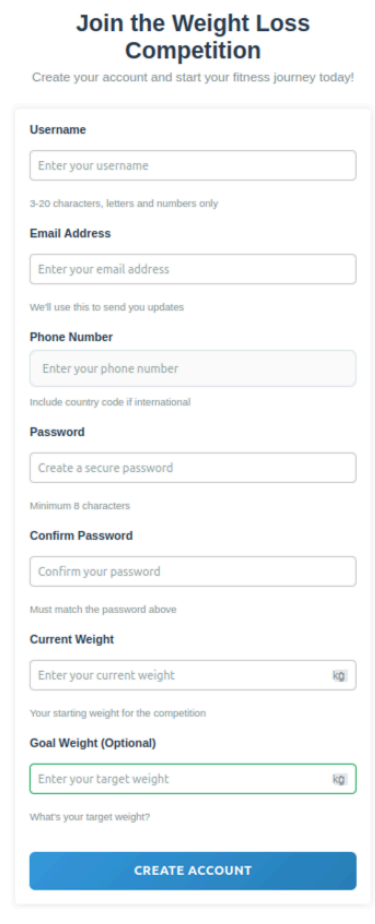
In my case the initial prompt did create a register page so instead of using the word *Create*, use the word *change* in the prompt. This is the result, as you can see, we need to fix the telephone and password fields:



The initial register form is titled "Register for the Weight Loss Competition". It contains the following fields: Username, Email, Telephone, Password, and Current Weight (kg). The form is styled with a light gray background and white input fields. A "Register" button is located at the bottom left, and a link to "Login here" is at the bottom right.

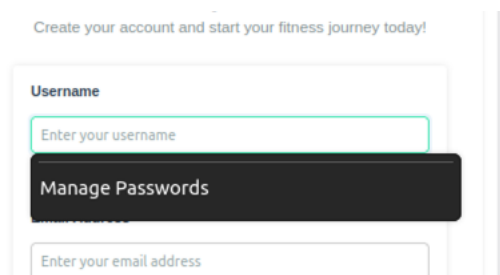
The form fields in the registration file are not consistent, make the form nicer and move it to just below the menu.

The response from Copilot was to update both the html and the css files. Here is the result:



The improved register form is titled "Join the Weight Loss Competition". It includes a sub-header "Create your account and start your fitness journey today!". The form is divided into sections: Username, Email Address, Phone Number, Password, Current Weight, and Goal Weight (Optional). Each section has a corresponding input field with placeholder text. The form is styled with a light gray background and white input fields. A "CREATE ACCOUNT" button is located at the bottom right, and a link to "Sign in here" is at the bottom left.

After the new form was created, I noticed a problem, when I clicked on the username field, I got this message in a black pop up box.



The register form is shown with a black pop-up box that says "Manage Passwords" overlaid on the Username field. The form is titled "Create your account and start your fitness journey today!". The Username field is highlighted with a red border, and the Email field is below it.

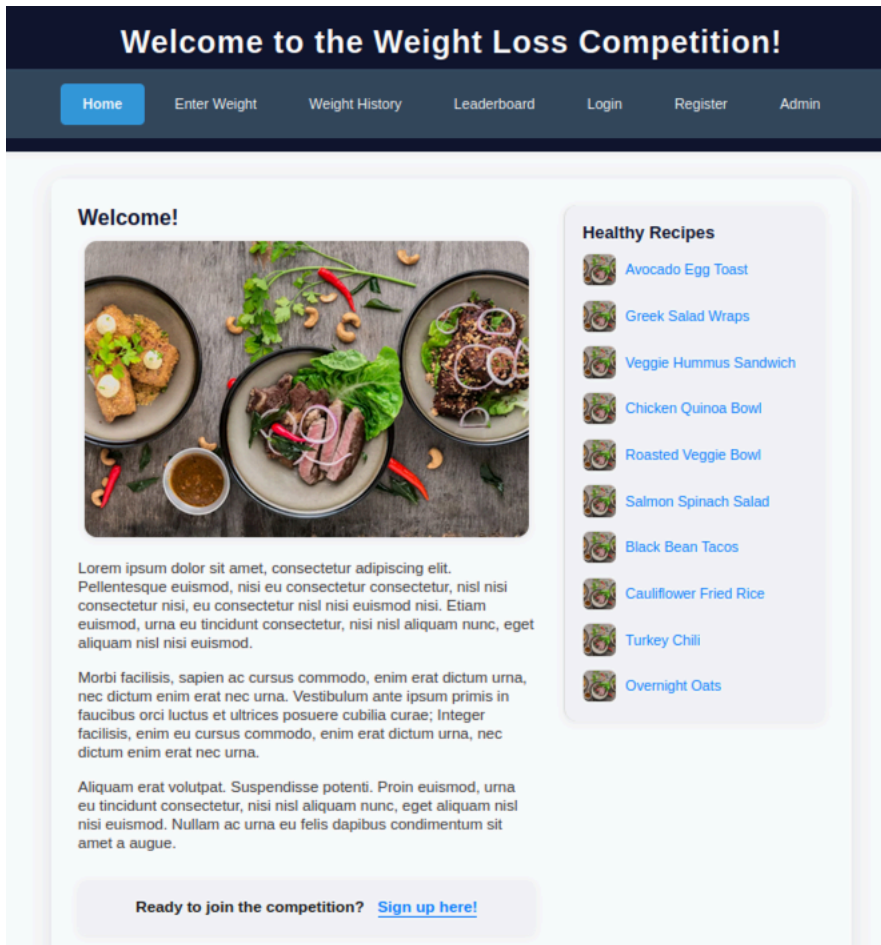
I had to prompt again to fix this issue:

When I click in the username form field on the browser, I get a pop up about manage passwords.

After all those changes I noticed that once we leave the home landing page there is no way to get back to that page, so here is my prompt:

After leaving the home (index.html) page, there is no way for me to see that page again, I only see the five other pages.

The image below is how the site appears with links to all pages:



One last thing we can do with the register page is to add a verify human check.

Current Weight

Your starting weight for the competition

Goal Weight (Optional)

What's your target weight?

Human Verification

What is 7 + 7?

Please solve this simple math problem to verify you're human

CREATE ACCOUNT

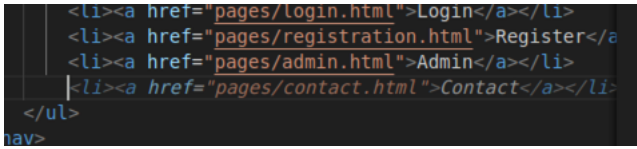
Add a simple human verification check to the registration page

Notice that you can click a button to get a new question and answer.

Already have an account? [Sign in here](#)

Part 04 – Copilot Features

1. Open the index.html file. Put your cursor at the end of line 20 and hit the Enter key. You will notice that



```
<li><a href="pages/login.html">Login</a></li>
<li><a href="pages/registration.html">Register</a>
<li><a href="pages/admin.html">Admin</a></li>
<li><a href="pages/contact.html">Contact</a></li>
</ul>
nav>
```

Copilot is trying to insert a new line for pages/contact.html. This page will be different for different users. For example it may suggest logout.html. This is Copilot Ghost Text and inline suggestion, where it is trying to think for you. You can accept the suggestion or hit the escape key to disregard it.

This feature is also called code completion.

2. Another feature is what they call slash commands. Slash commands act as **shortcuts** to specific tasks.

Instead of describing a task in full natural language, you can use a concise command prefixed by a / to tell Copilot what you want it to do.

Open the auth.js file and in the prompt input box type /. You will then see several shortcuts including the explain shortcut.

3. Copilot has a feature called **chat participants**, which is invoked via the @ symbol in the prompt area.

Chat participants can be considered "domain experts" or specific tools that Copilot can interact with. When you use it, Copilot has a specific context to work with.

For example @workspace: This participant has context about all the code in the open workspace or project folder you are currently working in. Use it when you want Copilot to consider other files, so not just the one you're actively working on.

A common prompt is: @workspace what is the attack surface?

This will cause Copilot to analyze any vulnerabilities in your entire project.

Security

Dependabot may have asked for a pull request. This is GitHub's alert tool for checking that your dependencies are vulnerability free and not deprecated.

Code scanning is available for public repositories. Pattern based vulnerabilities. If anything is found, you will get a notification. Related to this feature is a feature called Copilot autofix. This will fix and you will have to accept the changes or commit to a new branch. No need to run copilot to find and fix the problem.

Secret scanning and push protections. This will scan for sensitive information like passwords and make sure they don't get published in any documents. If push protection is on, it will prevent any secrets from even getting into the codebase.

