

Writing and Enhancing HTML with Copilot

Generative AI tools like Microsoft Copilot can simplify HTML writing and improve the quality of your code. AI tools can be used as coding assistants that create code based on your instructions.

In this activity, you will use Copilot to write HTML code for a portfolio website. This project will give you practice writing code yourself and using Copilot to help. You'll use Copilot to generate HTML elements, create semantic HTML structures, and ensure accessibility and SEO best practices.

This is the second of five activities where you will develop and code a front-end development project. The final output will be a portfolio website that you can use to show your mastery of front-end development with Copilot.

Activity Instructions

Step 1: Create a new HTML file

First, in your IDE, create a new file named `index.html`.

Step 2: Generate HTML structure

Next, you can add the HTML structure using Copilot.

1. Start by typing `<!DOCTYPE html>` and observe Copilot auto-complete the basic HTML structure.
2. Use Copilot to generate the `<head>` and `<body>` sections.
3. Include essential elements such as `<title>`, `<meta>`, and `<link>` for CSS.
4. Incorporate semantic HTML. Semantic HTML refers to using HTML tags that have meaning, such as `<header>`, `<article>`, and `<footer>`, which help with accessibility and SEO

Step 3: Develop the portfolio sections

Then, you can start creating different sections of your portfolio site using Copilot.

- Header: Type header and use Copilot to generate a header section with a navigation menu.
- About Me: Type section and name it "about-me." Use Copilot to generate a semantic structure with an `<h2>` heading and a `<p>` paragraph describing yourself.

- **Projects:** Create a "projects" section with appropriate headings and placeholder project descriptions. Use semantic tags like `<article>` and `<figure>` for each project.
- **Skills:** Use `` and `` elements to list your skills. Let Copilot suggest common skills for a developer portfolio.
- **Contact Form:** Create a "contact" section with a form. Use `<form>`, `<input>`, `<textarea>`, and `<button>` elements. Ensure semantic naming and proper label association for accessibility.

Step 4: Incorporate accessibility features

Next, it's important to incorporate accessibility features into your HTML code with Copilot.

- Use Copilot to add alt attributes to images.
- Ensure all interactive elements (e.g., buttons, links) are accessible with keyboard navigation.
- Add ARIA roles where necessary (e.g., `role="navigation"` for the nav bar). ARIA roles are attributes added to HTML elements to improve accessibility, such as `role='navigation'` for the navigation bar."
- When adding styles, ensure that the text color contrasts well with the background to meet WCAG standards. Use tools like the WebAIM Contrast Checker to verify this.
- For text alternatives, include descriptive alt text for images, especially in the Projects section.
- Consider font choices that enhance readability and are supported across different devices.

Step 5: Follow SEO best practices

Finally, you can use Copilot to assist in implementing SEO best practices in your code.

- Add a meaningful `<title>` and `<meta name="description">`.
- Use semantic tags and meaningful heading hierarchies.

Step 6: Save your work

After you have your HTML code usable and complete, save your work. You will use this code in later activities.

Writing and Enhancing CSS with Copilot

Activity Introduction

Generative AI tools like Microsoft Copilot can help you create CSS and apply styling to your code. AI tools can help you work on basic styling and ensure that your code is responsive to different screen sizes.

In this activity, you will use Copilot to create a CSS file to style your previously written HTML code. This project will give you practice working with CSS and testing compatibility and also using Copilot to help with the process. You'll use Copilot to generate CSS and set styling across your portfolio website project.

This is the third of five activities where you will develop and code a front-end development project. The final output will be a portfolio website that you can use to show your mastery of front-end development with Copilot.

Activity Instructions

Step 1: Create a new CSS file

First, in your IDE, create a new file named `styles.css`.

Step 2: Link CSS to HTML

Then, ensure the CSS file is linked correctly in the `<head>` of your `index.html` file using the `<link>` tag. Make sure you're linking to the HTML code you wrote previously in the activity [Writing and Enhancing HTML with Copilot](#).

Step 3: Generate basic styles

Next, you can begin adding basic styles to your project.

- Use Copilot to set basic styles for the body (e.g., font-family, margin, padding, background-color).
- Style the header and navigation bar with Copilot's suggestions for layout, color scheme, and typography.

Step 4: Style the portfolio sections

Then, you can start adding styling to the different sections of your portfolio site.

- About Me: Use Copilot to style the "About Me" section, focusing on text alignment, font size, and spacing.

- Projects: Using Copilot, create a card-like layout for the “Projects” section. Use properties like display: flex, margin, and padding.
- Skills: Style the “Skills” list with icons, using Copilot to suggest CSS pseudo-classes like ::before for adding icons.
- Contact Form: Create a "contact" section with a form. Use <form>, <input>, <textarea>, and <button> elements. Ensure semantic naming and proper label association for accessibility.

Step 5: Ensure responsive design

Next, it’s important to make sure your design is responsive to different screen sizes.

- Use Copilot to add media queries that adjust the layout for different screen sizes.
- Practice adding a breakpoint at 768px width. Adjust navigation to a mobile-friendly version using a hamburger menu icon.
- Ensure that images and videos are responsive with max-width: 100% and height: auto.

Step 6: Confirm cross-browser compatibility

Finally, you can use Copilot to ensure your code works across different browsers.

- Use Copilot to add vendor prefixes for CSS properties that require it.
- Test the website in different browsers (e.g. Edge, Chrome, Firefox) and note any discrepancies.
- Use Copilot to fix any issues by suggesting compatible CSS properties or syntax.

Step 7: Save your work

After you have your CSS in place, save your work. You will continue this project in later activities.

HTML:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <meta name="robots" content="noindex, nofollow" />
  <meta name="description" content="Portfolio website of Dmitrii Bartash - Junior Full-Stack Developer specializing in .NET & ASP.NET Core." />
  <title>Dmitrii Bartash | Junior Full-Stack Developer</title>
  <link rel="stylesheet" href="style.css" />
  <style>
    .email-obfuscated { unicode-bidi: bidi-override; direction: rtl; }
  </style>
</head>
<body>

  <!-- Header -->
  <header role="banner">
    <nav role="navigation" aria-label="Main navigation">
      <ul>
        <li><a href="#about-me">About</a></li>
        <li><a href="#experience">Experience</a></li>
        <li><a href="#education">Education</a></li>
        <li><a href="#skills">Skills</a></li>
        <li><a href="#certifications">Certifications</a></li>
        <li><a href="#contact">Contact</a></li>
      </ul>
    </nav>
  </header>

  <!-- About Section -->
  <section id="about-me">
    <h2>About Me</h2>
    <p><strong>Dmitrii Bartash</strong> - Junior Full-Stack Developer based in Chişinău, Moldova.</p>
    <p>Aspiring software developer with hands-on experience designing and building full-stack web applications and distributed backend systems. Skilled in clean code, system architecture, and cloud integration.</p>
    <p><strong>Email:</strong> <span class="email-obfuscated">moc.liamg@hsatrab.iirtimd</span></p>
    <p><strong>GitHub:</strong> <a href="https://github.com/DmitriiBartash" target="_blank" rel="noopener noreferrer">github.com/DmitriiBartash</a> | <strong>LinkedIn:</strong> <a href="https://www.linkedin.com/in/dmitrii-bartash" target="_blank" rel="noopener noreferrer">linkedin.com/in/dmitrii-bartash</a></p>
  </section>

  <!-- Experience Section -->
  <section id="experience">
    <h2>Experience</h2>

    <article>
      <h3>Biocond S.R.L - Intern Full-Stack Developer (Graduation Project)</h3>
```

```

    <p><em>01/2024 - 06/2025 | Chişinău, Moldova</em></p>
    <ul>
      <li>Designed a microservice-based management system for climate
equipment installation</li>
      <li>Built backend with ASP.NET Core and FastAPI</li>
      <li>Integrated PostgreSQL, MongoDB, Redis</li>
      <li>Developed BTU Calculator for thermal load estimation</li>
      <li>Enabled REST, WebSocket, and RabbitMQ communication</li>
      <li>Containerized services with Docker for consistent
deployment</li>
      <li>Contributed to full-stack system design and integration</li>
    </ul>
  </article>

  <article>
    <h3>Emirat Travel - Intern Full-Stack Developer (Technological
Internship)</h3>
    <p><em>06/2023 - 12/2023 | Chişinău, Moldova</em></p>
    <ul>
      <li>Led team workflow and communication as team manager</li>
      <li>Built a full-stack ASP.NET Core web app with EF Core and
SQLite</li>
      <li>Developed admin panel and coordinated with client on
planning and delivery</li>
    </ul>
  </article>
</section>

<!-- Education Section -->
<section id="education">
  <h2>Education</h2>

  <article>
    <h3>Master's Degree - Information Technology</h3>
    <p><em>Technical University of Moldova | 09/2025 -
01/2027</em></p>
  </article>

  <article>
    <h3>Bachelor's Degree - Information Technology</h3>
    <p><em>Technical University of Moldova | 09/2021 -
06/2025</em></p>
    <ul>
      <li>Average GPA: 9.59</li>
      <li>Highest grade (10) for bachelor's thesis</li>
      <li>Served as class representative</li>
    </ul>
  </article>
</section>

<!-- Skills Section -->
<section id="skills">
  <h2>Skills</h2>
  <ul>
    <li><strong>Programming Languages:</strong> C#, Python,
JavaScript, SQL</li>
    <li><strong>.NET Frameworks & Tools:</strong> ASP.NET Core,
ASP.NET Web API, ASP.NET MVC, Razor Pages, Blazor, Entity Framework
Core, LINQ</li>

```

```

        <li><strong>Python Frameworks:</strong> FastAPI</li>
        <li><strong>Frontend & UI:</strong> HTML5, CSS3, JavaScript</li>
        <li><strong>Databases & Storage:</strong> PostgreSQL, Microsoft
SQL Server, SQLite, MongoDB, Redis</li>
        <li><strong>Architecture & Integration:</strong> Monolithic,
Microservices, REST APIs, WebSocket, RabbitMQ</li>
        <li><strong>DevOps & Infrastructure:</strong> Docker, Docker
Compose, CI/CD, Git</li>
        <li><strong>Testing & Monitoring:</strong> xUnit, Postman, k6,
Grafana</li>
        <li><strong>Modeling & Design:</strong> UML, API & Database
Design</li>
    </ul>
</section>

<!-- Certifications Section -->
<section id="certifications">
    <h2>Certifications</h2>
    <ul>
        <li>
            <strong>Introduction to Programming With C#</strong> - Microsoft
(July 22, 2025)<br />
            <a
href="https://coursera.org/share/7e4101de80eb49503dd0f0e393913064"
target="_blank" rel="noopener noreferrer">View Certificate</a>
        </li>
        <li>
            <strong>Foundations of Coding Full-Stack</strong> - Microsoft
(July 7, 2025)<br />
            <a
href="https://coursera.org/share/cf252a5528e0e4fbd1c0e0bd795b1c"
target="_blank" rel="noopener noreferrer">View Certificate</a>
        </li>
    </ul>
</section>

<!-- Contact Section with Form -->
<section id="contact">
    <h2>Contact Me</h2>
    <form class="contact-form" action="#" method="post">
        <label for="name">Your Name</label>
        <input type="text" id="name" name="name" placeholder="Enter your
name" required />

        <label for="email">Your Email</label>
        <input type="email" id="email" name="email" placeholder="Enter
your email" required />

        <label for="message">Your Message</label>
        <textarea id="message" name="message" rows="5" placeholder="Type
your message here..." required></textarea>

        <button type="submit">Send Message</button>
    </form>
</section>

<!-- Footer -->
<footer>
    <p>&copy; 2025 Dmitrii Bartash. All rights reserved.</p>

```

```
    <p>Languages: Russian (Native) | Romanian (Native) | English  
(Improving)</p>  
</footer>
```

```
<!-- Optional JS to reverse obfuscated email -->  
<script>  
  document.querySelectorAll('.email-obfuscated').forEach(el => {  
    el.addEventListener('click', () => {  
      const reversed = el.textContent.split('').reverse().join('');  
      window.location.href = 'mailto:' + reversed;  
    });  
  });  
</script>  
  
</body>  
</html>
```


CSS:

```
/* ===== Root Variables ===== */
:root {
  --bg-color: #f9fafb;
  --text-color: #1f2937;
  --accent: #2563eb;
  --accent-dark: #1e40af;
  --card-bg: #ffffff;
  --card-border: #e5e7eb;
  --highlight-bg: #e0f2fe;
  --pill-bg: #eef2ff;
  --pill-text: #3730a3;
  --font-main: 'Segoe UI', Roboto, sans-serif;
  --shadow-sm: 0 1px 4px rgba(0, 0, 0, 0.06);
  --shadow-md: 0 4px 12px rgba(0, 0, 0, 0.1);
}

/* ===== Reset & Base ===== */
* {
  margin: 0;
  padding: 0;
  box-sizing: border-box;
}

body {
  font-family: var(--font-main);
  background-color: var(--bg-color);
  color: var(--text-color);
  line-height: 1.7;
  font-size: 16px;
  padding: 0 1rem;
  scroll-behavior: smooth;
}

/* ===== Layout Containers ===== */
header, section, footer {
  max-width: 1000px;
  margin: auto;
  padding: 3rem 1rem;
}

/* ===== Header & Navigation ===== */
header {
  background: linear-gradient(90deg, #1f2937, #111827);
  color: #fff;
  position: sticky;
  top: 0;
  z-index: 100;
  box-shadow: var(--shadow-md);
  border-radius: 0 0 16px 16px;
  padding: 1.5rem 1rem;
}

nav ul {
  display: flex;
  justify-content: center;
  gap: 2rem;
  list-style: none;
```

```

    flex-wrap: wrap;
}

nav a {
    color: #fff;
    text-decoration: none;
    font-weight: 500;
    position: relative;
    padding: 0.5rem 0;
    transition: color 0.3s ease;
}

nav a::after {
    content: '';
    position: absolute;
    height: 2px;
    width: 0;
    left: 50%;
    bottom: 0;
    background-color: #3b82f6;
    transition: all 0.3s ease;
}

nav a:hover {
    color: #dbeafe;
}

nav a:hover::after {
    left: 0;
    width: 100%;
}

/* ===== Headings ===== */
h2 {
    font-size: 2.2rem;
    margin-bottom: 2rem;
    border-bottom: 2px solid var(--card-border);
    padding-bottom: 0.6rem;
    color: var(--accent-dark);
}

h3 {
    font-size: 1.4rem;
    margin-top: 1.8rem;
    margin-bottom: 0.7rem;
    color: var(--text-color);
}

/* ===== Card Sections ===== */
section > article,
section > div {
    background: var(--card-bg);
    border: 1px solid var(--card-border);
    border-radius: 12px;
    padding: 2rem;
    margin-bottom: 2rem;
    box-shadow: var(--shadow-sm);
    transition: transform 0.2s ease, box-shadow 0.3s ease;
}

```

```

section > article:hover,
section > div:hover {
  transform: translateY(-4px);
  box-shadow: var(--shadow-md);
}

/* ===== Paragraphs & Lists ===== */
p {
  margin-bottom: 1.1rem;
}

ul {
  padding-left: 1.5rem;
  margin-top: 0.5rem;
  margin-bottom: 1.5rem;
}

ul li {
  margin-bottom: 0.5rem;
}

/* ===== Links ===== */
a {
  color: var(--accent);
  transition: color 0.2s ease;
}

a:hover {
  color: var(--accent-dark);
}

/* ===== Skills Section ===== */
#skills ul {
  display: flex;
  flex-wrap: wrap;
  gap: 0.6rem;
  list-style: none;
  padding-left: 0;
}

#skills li {
  background-color: var(--pill-bg);
  color: var(--pill-text);
  padding: 0.5rem 0.9rem;
  border-radius: 20px;
  font-size: 0.9rem;
  font-weight: 500;
  box-shadow: 0 1px 3px rgba(0,0,0,0.05);
}

/* ===== Certifications Section ===== */
#certifications a {
  display: inline-block;
  margin-top: 0.4rem;
  color: var(--accent);
  font-size: 0.95rem;
}

```

```

/* ===== Contact Section ===== */
#contact {
  background-color: var(--highlight-bg);
  border-left: 5px solid var(--accent);
  border-right: 5px solid var(--accent);
  padding: 2rem;
  border-radius: 12px;
}

#contact h2 {
  text-align: center;
}

#contact p {
  font-weight: 600;
  font-size: 1.1rem;
  text-align: center;
}

/* ===== Contact Form ===== */
.contact-form {
  margin-top: 1.5rem;
  display: flex;
  flex-direction: column;
  gap: 1rem;
}

.contact-form label {
  font-weight: 600;
  color: var(--text-color);
}

.contact-form input,
.contact-form textarea {
  padding: 0.7rem;
  border: 1px solid var(--card-border);
  border-radius: 6px;
  font-size: 1rem;
  font-family: var(--font-main);
  background-color: #fff;
}

.contact-form textarea {
  resize: vertical;
}

.contact-form button {
  background-color: var(--accent);
  color: white;
  padding: 0.7rem 1.2rem;
  border: none;
  border-radius: 6px;
  font-size: 1rem;
  font-weight: 600;
  cursor: pointer;
  transition: background 0.3s ease;
}

.contact-form button:hover {

```

```

    background-color: var(--accent-dark);
}

/* ===== Footer ===== */
footer {
    text-align: center;
    font-size: 0.9rem;
    color: #6b7280;
    border-top: 1px solid var(--card-border);
    padding: 2rem 1rem;
    margin-top: 3rem;
}

/* ===== Obfuscated Email ===== */
.email-obfuscated {
    unicode-bidi: bidi-override;
    direction: rtl;
    cursor: pointer;
    display: inline-block;
    background: rgba(37, 99, 235, 0.1);
    padding: 0.2rem 0.5rem;
    border-radius: 4px;
    font-weight: 500;
    transition: background 0.3s ease;
}

.email-obfuscated:hover {
    background: rgba(37, 99, 235, 0.2);
}

/* ===== Responsive ===== */
@media (max-width: 600px) {
    nav ul {
        flex-direction: column;
        gap: 1rem;
    }

    h2 {
        font-size: 1.8rem;
    }

    h3 {
        font-size: 1.2rem;
    }

    section > article,
    section > div {
        padding: 1.2rem;
    }

    #skills li {
        font-size: 0.85rem;
        padding: 0.4rem 0.8rem;
    }

    .contact-form input,
    .contact-form textarea {
        font-size: 0.95rem;
    }
}

```

```
.contact-form button {  
  font-size: 0.95rem;  
}  
}
```