Robogals Science Challenge

Minor Challenge Set #2
STEM Field: Software Engineering
Level: Junior
Challenge Name: Build Your Own Website Using HTML
Project Cost: 0 USD
Materials Required:
- Computer with access to Internet
- Registration for an account on Codemoji is not required, but recommended to save your progress and project. This is a free website. Consult your parent or mentor for account registration.

Duration:
- This challenge takes approximately 2 hours to finish, however, the time guideline is an estimation only, and students and mentors can complete the tasks around their schedules.

Introduction:

The World Wide Web consists of numerous websites that allow us to learn new information, connect with others, and so much more! These websites were built using different programming languages. A programming language is a special set of instructions given to the computer to run. Some of the more robust websites use programming languages such as JavaScript, React, Java, CSS.

In this project you will learn to build a website using a programming language called HTML (Hypertext Markup Language). HTML is the

building block for thousands of websites on the internet today. You will learn to use HTML to construct a simple website on a topic of your choice which will include titles, texts, and photos or videos.
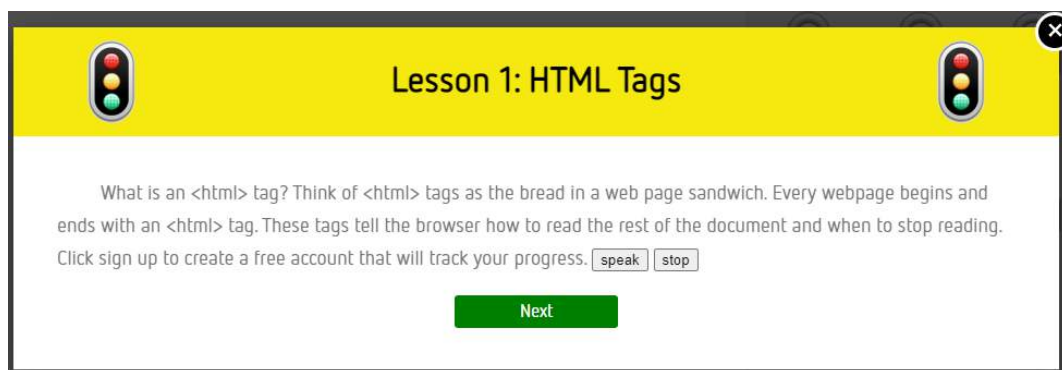
Instructions:

1. Navigate to the website
   https://www.codemoji.com/lessons/html/beginner/1.php
   on your computer. It is recommended you use a browser such as Chrome for this activity.

   This is a free learning website. You can register for a student or parent account to save your progress as you go. If you prefer not to register for an account, it is recommended that you complete the tutorials in one sitting to avoid losing your progress.

2. This website contains a series of lessons to help you getting started with building a simple website using HTML. At the beginning of each lesson, you will see a yellow panel such as the figure below.


3. Read the description in the yellow panel. Click "Next" for more explanations and the main instruction for the lesson.

   Hint: If you prefer to listen to the instructions, click on the "speak" button for the audio.

4. To complete the lesson, follow the given instructions, and drag the icons on the right side to the programming space.

   Hint: If you want to read the explanation or instruction again, click on the ▷ symbol on the left hand side of the page.

5. After you have dragged the appropriate icons to the programming space, click on Run Code to run your code. If your code is correct, a yellow panel such as the figure below will appear.
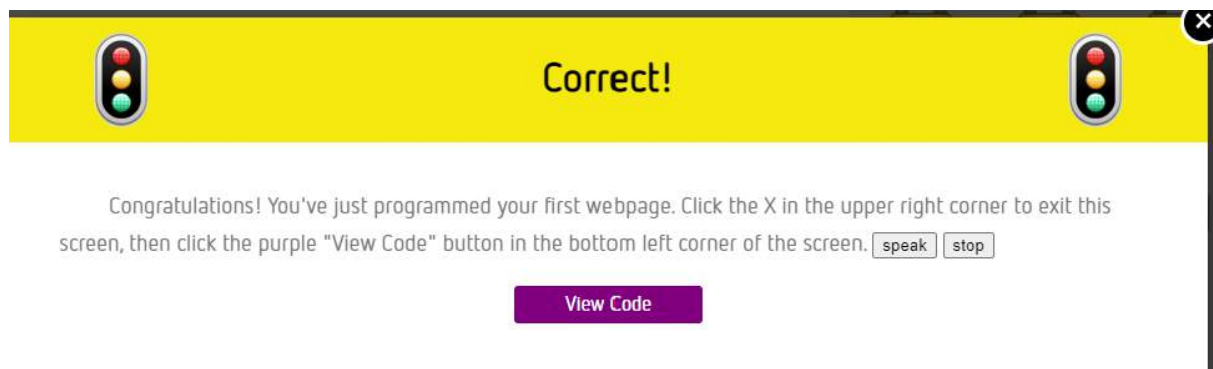
   Note: It is recommended that you view your code written in HTML after you completed each lesson to familiarise yourself with this programming language!

6. Follow the lessons and unlock all 19 symbols on the right hand side!

7. Your final task is to create your own simple website based on what you have learned! This figure below is a very simple and not-so-creative website we have made.

Be creative with your website – you can modify the title, heading, or select images or videos to make your website more interactive!

Hint: For symbols such as "<title>", or "<h1>", you can modify the given text with your own text. When you drag the symbols to the programming space, click on the given text "This is a title" or "This is a heading", delete the text, and replace it with your own sentences.

Extension - Write Your Own HTML Code
After completing the main lessons, you may like to build your own website by writing actual HTML codes. You can register for an account on Codemoji to create a new programming project and save your code.

Navigate to the website https://www.codemoji.com/code/ on your computer. Here, you can write your HTML code on the right hand side. On the left hand side, you will see the output of your written codes. The

below figure shows an example of some code we wrote and the output the code produced.
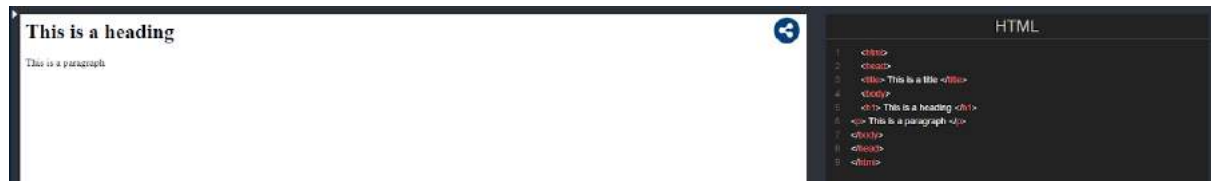
You can copy and paste our code to the website, save the code, and see how it produces the output.

```html
<html>
<head>
<title> This is a title </title>
<body>
<h1> This is a heading </h1>
<p> This is a paragraph </p>
</body>
</head>
</html>
```

As you write your HTML code, make sure to click on "Save code" as you go! The correct code will produce some output on the left hand side. Refer to the lessons you have completed if you'd like more guidance on writing your own code.

Reflection Questions:

- Are there any improvements you would make to this challenge?
- What real world application/s can you apply this challenge to?

- Did you find building your own website (in step 7) difficult? If so, what challenge did you face, and how did you overcome it?
- Imagine you have learned more advanced skills in programming, how would you like to improve your website? What features will you add to the website, and what real-life topic would your website address?

Submission Guidelines:

- Submit photos of your website and your code. If you attempted the extension task, submit photos of your website and your written code. Include a short summary that addresses the reflection questions.

> Note: Remember, if you want to upload pictures of your Minor Challenge that also include you, please check if it is OK with your parent or guardian first.

- The submission form is on the Minor Challenges page: https://sciencechallenge.org.au/index.php/minor-challenges/ Fill out the details and make sure you upload your submission.

Learn More! Resources:

- Explore other beginner programming courses on Codemoji here: https://www.codemoji.com/courses/

There are courses on programming languages called CSS, and JavaScript (JS) – which are crucial to website development.

- If you want to learn Python (a powerful, and widely used programming language), try our Minor Challenge Software Engineering Intermediate project for an introduction to Python programming.

Bibliography:

- Codemoji.com. 2021. *Codemoji® - Coding for Kids!*. [online] Available at: <https://www.codemoji.com/> [Accessed 8 February 2022].