HW5 Deliverables

URL: <https://theo-dayton.github.io/amicable/>

Code:

HTML/JS:

<html>

<head>

    <title>Lottery Sim</title>

    <link rel="stylesheet" href="css/main.css">

</head>

<body>

    <h1>Check if two numbers are amicable</h1>

    <form>

        <label for="fname">Number #1:</label><br>

        <input type="text" id="number1" name="number1" value="0"><br>

        <label for="lname">Number #2:</label><br>

        <input type="text" id="number2" name="number2" value="0"><br><br>

      </form>

      <button onclick="sitePrompt()">Check</button>

      <h2>Result:</h2><br>

      <p id="result"></p>

    <script>

    function sitePrompt() {

        let x = document.getElementById("number1").value;

        let y = document.getElementById("number2").value;

        if (isAmicable(x,y)) {

            document.getElementById("result").innerHTML = "The numbers: " + x +

             " and " + y + " are amicable";

        }

        else {

            document.getElementById("result").innerHTML = "The numbers: " + x +

             " and " + y + " are not amicable";

        }

};

function isAmicable(x,y) {

    let amicable1 = true;

    let amicable2 = true;

    let count1 = 0;

    let count2 = 0;

    let factors1 = [];

    let factors2 = [];

    for (let i = 0; i < x-1; i++) {

        if (isAFactor(i,x)) {

            count1+= i;

            factors1.push(i);

        }

    }

    for (let i = 0; i < y-1; i++) {

        if (isAFactor(i,y)) {

            count2+= i;

            factors2.push(i);

        }

    }

    alert("Factors of " + x + ":\n" + factors1.join("\n") +

    "\nSum of factors: " + count1);

    alert("Factors of " + y + ":\n" + factors2.join("\n") +

    "\nSum of factors: " + count2);

    if (count1 == y && count2 == x) {

        return true;

    }

    else {

        return false;

    }

};

function isAFactor(x,y) {

    if (y % x == 0) {

        return true;

    }

    else {

        return false;

    }

};

    </script>

</body>

</html>

CSS:

body {

    text-align: center;

    font-family: 'Times New Roman', Times, serif;

    padding:2em;

    background-color: #f0f0f0;

    box-sizing: border-box;

    margin: 2em;

    border-style: solid;

    border-width: 5px;

}

h1 {

    font-weight: bold;

    font-size: 3em;

}

 button {

    background-color: #707070;

    border: none;

    color: rgb(255, 255, 255);

    padding: 10px 32px;

    text-align: center;

    text-decoration: none;

    display: inline-block;

    font-size: 16px;

    margin: auto;

    cursor:pointer;

 }

 button:hover {

     background-color: rgb(100, 100, 100);

     transition: 0.3s;

 }

Questions:

* Identify three differences and three similarities between C++ and Javascript?
  + Differences:
    - Firstly, you have to specify variable types when declaring variables in Javascript
    - Javascript is a scripting language while c++ is meant to be compiled and executed after
    - Javascript is easily implemented with HTML to work with webpages while C++ cannot.
  + Similarities
    - They have very similar syntax, such as when writing for loops or functions
    - You can use both for OOP
    - They both have high-level features, such as classes, which are not found in lower-level languages like C.
* What is your opinion of Javascript as a programming language?
  + I find Javascript very easy to use. I am currently enrolled in COMP40 where we work with C, and so working with Javascript is a breath of fresh air, since many of the manual tasks are done under the hood.