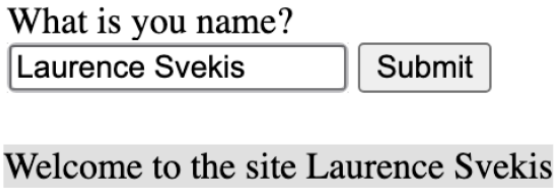
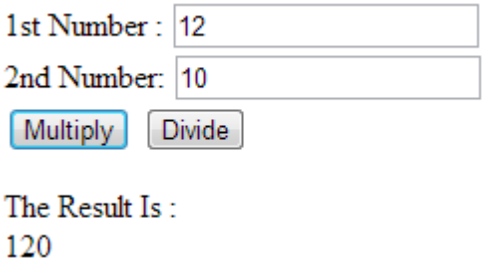
WT822: Advanced Website programming .net
Lab 6 – JavaScript Basics

1. Create a page welcome message :
   - Get the user name in the input field
   - When the button is pressed add an event that get the user name and creates a welcome message on the page
   - Add a check to ensure the length of the input is larger than 3 characters long.



2. Write a JavaScript program to calculate multiplication and division of two numbers (input from user).
   Sample Form:



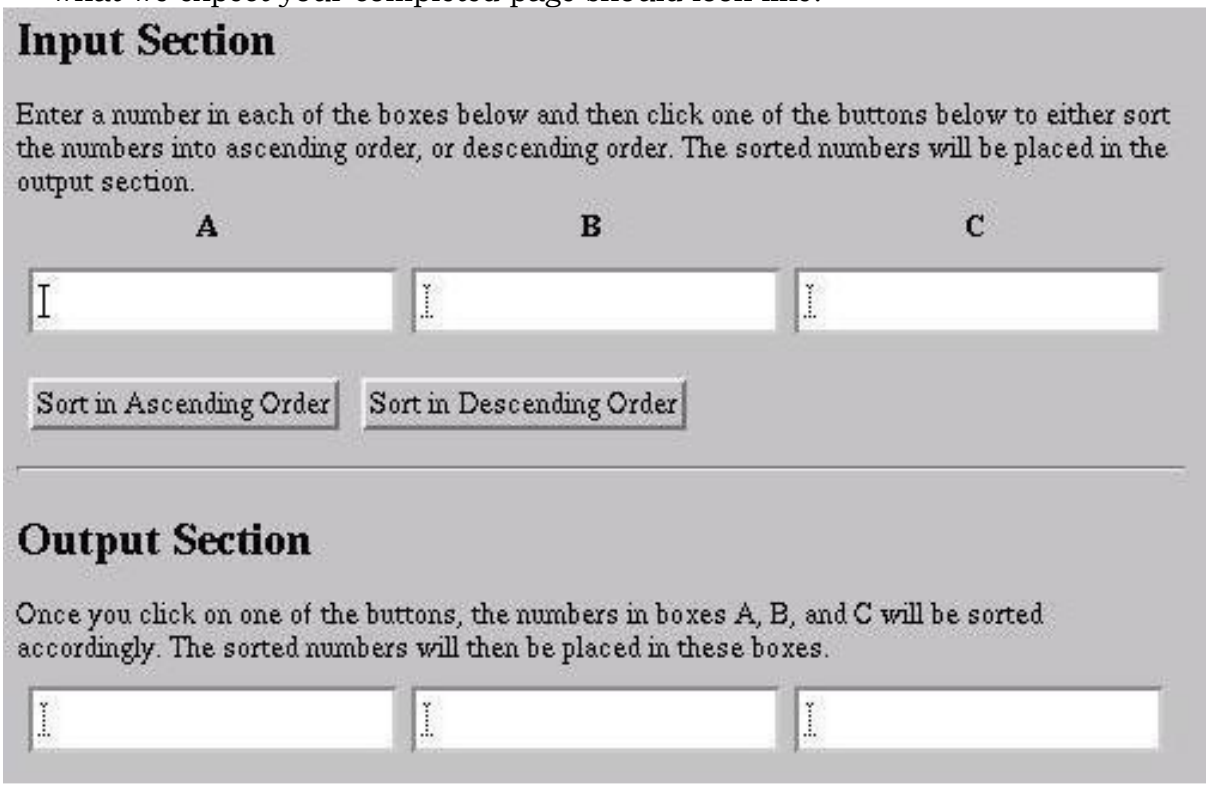
3. Your task is to create a Circle constructor that creates a circle with a radius provided by an argument. The circles constructed must have two methods getArea() ($PI*r^2$) and getPerimeter() (2*PI*r) which give both respective areas and perimeter (circumference).

```
let circy = new Circle(11)
circy.getArea()

// Should return 380.132711084365
let circy = new Circle(4.44)
circy.getPerimeter()

// Should return 27.897342763877365
```

4. Create a web page that sorts three numbers entered by a user.
   The user can change how the numbers are sorted by clicking on either a button labeled "Sort in Ascending Order", or a button labeled "Sort in Descending Order"
   Thus, your program will need to use JavaScript to sort the three numbers once the user clicks on one of the buttons.
   The sorted numbers will then be placed into a set of output boxes Figure bellow is what we expect your completed page should look like.



5. Consider the following message to send data

Create an HTML form with fields for the data that you want to send. Setup the JavaScript to validate the form input values, and create an object of data to send to the Apps Script endpoint.

1. Add HTML input fields for the user to be able to enter information. Apply CSS styling as needed to style your form fields
2. Using JavaScript select the input fields as JavaScript variables
3. Create an event that invokes a function named submitter() when the form submit button is clicked
4. Using e.preventDefault(); to prevent the default action of the form submission to prepare for AJAX.
5. Add conditions on the input field values, set up a variable to add content to if errors are caught.
6. If errors are caught in the conditions, output them in a new element that gets created with JavaScript.
7. Set a timeout to remove the error element and reset the input field border colors back to default.
8. Create an object the contains all the form input data with property names that match the data.

6. Write a function called 'describeCountry' which takes three parameters: 'country', 'population' and 'capitalCity'. Based on this input, the function returns a string with this format: 'Finland has 6 million people and its capital city is Helsinki' Call this function 3 times, with input data for 3 different countries. Store the returned values in 3 different variables, and log them to the console

7. The world population is 7900 million people. Create a function declaration called 'percentageOfWorld1' which receives a 'population' value, and returns the percentage of the world population that the given population represents. For example, China has 1441 million people, so it's about 18.2% of the world population. To calculate the percentage, divide the given 'population' value by 7900 and then multiply by 100. Call 'percentageOfWorld1' for 3 populations of countries of your choice, store the results into variables, and log them to the console. Create a function expression which does the exact same thing, called 'percentageOfWorld2', and also call it with 3 country populations (can be the same populations).
   Recreate the last assignment, but this time create an arrow function called 'percentageOfWorld3'.

8. Create an array containing 4 population values of 4 countries of your choice. You may use the values you have been using previously. Store this array into a variable called 'populations'. Log to the console whether the array has 4 elements or not (true or false). Create an array called 'percentages' containing the percentages of the world population for these 4 population values. Use the function 'percentageOfWorld1' that you created earlier to compute the 4 percentage values.
9. Create an object called 'myCountry' for a country of your choice, containing properties 'country', 'capital', 'language', 'population' and 'neighbours' (an array like we used in previous assignments). log a string like this to the console: 'Finland has 6 million finnish-speaking people, 3 neighbouring countries and a capital called Helsinki.'.
   Increase the country's population by two million using dot notation, and then decrease it by two million using brackets notation.
   Add a method called 'describe' to the 'myCountry' object. This method will log a string to the console, similar to the string logged in the previous assignment, but this time using the 'this' keyword. Call the 'describe' method. Add a method called 'checkIsland' to the 'myCountry' object. This method will set a new property on the object, called 'isIsland'. 'isIsland' will be true if there are no neighbouring countries, and false if there are. Use the ternary operator to set the property.

Create a validation function pizza order form that you created form **practical 2 as shown in the figure below**

The function should check that the user has done the following things:

a. Provided full name

b. Provided street address

c. Provided a valid phone number(exactly ten digits phone number)

d. Provided valid email address

e. Provided password of at least 5 characters and not more than 15 characters

f. Selected one of the listed card types

g. Provided card number

h. Provided card name

i. Checked at least one spice

j. Selected one of the pizza size

k. Provided the quantity of pizza

l. Selected one of the radio buttons of meat

m. Other requirement field if optional

The function should generate JavaScript alert message if one of the above conditions is not satisfied.