This assignment is on JavaScript, its uses in client side validation and building small apps. The assignment is in 2 parts and will also make use of HTML forms. You can also add CSS to customize your page. Please note that I will not accept submissions through email. Your homepage should have a link to the first of the two pages you have to write. If you have questions about setting up your homepage, please see me during office hours to get it set up.

**JavaScript Validation - 100 points.**

For the first part of your assignment, you’re required to design an HTML form and use JavaScript to perform client side validation. This file should be called “form.html”. Your form should look like the image below. The action for the form, when the user clicks the Submit button, should take you to the next page, which should be called “calculator.html”. You should be able to get to the calculator only if all the requirements for the form are met.
The form should abide by the following rules:

- No text-entry field (first name, last name, email and phone number) should be empty. (10 points)
- Name fields should be text (uppercase and lowercase letters) only. (10 points)
- User should choose one and only one from among the classifications. (10 points)
- Email should be `<id>@<domain>`. For example, abc.11@gmail.com. You have to use JavaScript here, as the HTML5 input type “email” doesn’t fulfil the requirement. (20 points)
- Phone number must be numeric only and should contain 10 digits. (10 points)
- “You’re best at” field should have at least 3 options, with HTML being the default. (10 points)
- For the “Programming Language” field, the user should be able to choose none, one or more. (10 points)
- The submit button should redirect to your calculator page if all the requirements are met. (20 points)

**JavaScript App - 100 points**

The second part of your assignment is to develop a simple calculator using JavaScript. You should use HTML form attributes here as well. You can get to this page only by entering valid data on your “form.html” page and clicking the Submit button. Do not include a link to this page on your homepage. The calculator should have the following features:

- A text box to display the current number/result. (10 points)
- Buttons for numbers 0-9, organized like the standard calculator. (20 points)
- A button for the decimal point. This calculator should be able to handle floating point operations. (10 points)
- Buttons for +, -, *, / operations. (20 points)
- Buttons for “^” (exponentiation), sin, cos and tan. Values for trig functions can be assumed to be in radians. Please don’t confuse exponentiation with the exp function, which gives you the value of e^x. Exponentiation should take 2 comma separated values “x” and “y” and calculate x^y. (30 points)
- An “=” button to display the result of the calculation. (10 points)