This sample exam demonstrates the types of some questions that I will ask on exam 2.
The questions begin on the next page.
1. Finish off the HTML shown below by adding Javascript in the `head`, and by adding attributes to the `input`'s as needed. Do not add anything that is not necessary, else you will be penalized.

Let $x$ refer to the value in box X. When button A is clicked, the value in box Y should be $10x^2$. An example of the browser screen is shown just below after clicking A with $x = 5$.

![Example Screen](image_url)

```html
<html>
  <head>
    <script>

    </script>
  </head>
  <body>
    <form name="Form">
      X: <input name="X" type=text size=10 >
      
      Y: <input name="Y" type=text size=10 >
      
      <input name="A" type=button value="A"
    </form>
  </body>
</html>
```
2. Finish off the HTML shown below by adding Javascript in the head, and by adding attributes to the input's as needed. Do not add anything that is not necessary, else you will be penalized.

Let \( x \) refer to the value in box X and \( y \) refer to the value in box Y. When button A is clicked, the value in box Z should be \( x - y \). When button B is clicked, Z should show \( x \cdot y \). An example of the browser screen is shown just below after clicking A.

Here is an example of the same screen but after clicking button B.

<html>
<head>
<script>

</script>
</head>
<body>
<form name="Form">
    X: <input name="X" type=text size=10 >

    Y: <input name="Y" type=text size=10 >

    Z: <input name="Z" type=text size=10 >

    <input name="A" type=button value="A" >

    <input name="B" type=button value="B" >
</form>
</body>
</html>
3. Finish off the HTML shown below by adding Javascript in the `head`, and by adding attributes to the `input`s as needed. Do not add anything that is not necessary, else you will be penalized.

Let $x$ refer to the value in box X and $y$ refer to the value in box Y. Whenever the value in X or Y changes, then box Z displays “Yes” if $y$ divides evenly into $x$ and “No” if it does not.

```
<html>
<head>
  <script>

X: 16  Y: 4  Z: Yes

  </script>
  <head>
  <body>
  <form name="Form">
    X: <input name="X" type=text size=10 value=0>
  
    Y: <input name="Y" type=text size=10 value=0>
  
    Z: <input name="Z" type=text size=10>

  </form>
  </body>
</html>
```
4. Finish off the HTML shown below by adding Javascript in the head, and by adding attributes to the input's as needed. Do not add anything that is not necessary, else you will be penalized.

Let $v, w, x, y$ refer to the values in boxes $V, W, X, Y$, respectively. When button A is clicked, the value in box $Z$ should be $|v - w| - |x - y|$. I.e., the absolute value of the difference between two other values, namely, (1) the absolute value of $v - w$ and (2) the absolute value of $x - y$. An example of the browser screen is shown just below after clicking A.

![HTML form](image)

```html
<html>
  <head>
    <script>
      // Javascript code goes here
    </script>
  </head>
  <body>
    <form name="Form">
      V: <input name="V" type=text size=8 >
      W: <input name="W" type=text size=8 >
      X: <input name="X" type=text size=8 >
      Y: <input name="Y" type=text size=8 >
      Z: <input name="Z" type=text size=8 >
    </form>
    <input name="A" type=button value="A" >
  </body>
</html>
```
5. Below is the function \( \text{Fn}(n) \). What is returned by the call \( \text{Fn}(-3, 5) \)?

\[
\text{function Fn (n,m) }
\begin{align*}
&\text{ if (n == 0) }
&\quad \text{return 0; }
&\text{ else if (n < 0) }
&\quad \text{return -1 * Fn(-n,m); }
&\text{ else }
&\quad \text{return m + Fn(n-1,m); }
\end{align*}
\]

6. What is the value of \( z \) after the following Javascript code is executed?

\[
\text{var x = 9;}
\text{var y = 18;}
\text{var z = y - x;}
\text{if (z > x) z = - z;}
\text{else z = 2 * z;}
\]