

Hand in a stapled, printed copy with your answers.

**Homework: /SI110/The Cyber Battlefield/Programs Part 4**

0. The URL <http://rona.cs.usna.edu/~si110/lec/108/hw/number.html> pulls up the following program in the batch interpreter. Experiment with it a bit.

```
var input1 = prompt("Enter a number between 0 and 10.");
var n = Number(input1);

while(input1 == "" || isNaN(n) || n < 0 || n > 10)
{
  input1 = prompt("Try again! Enter a number between 0 and 10.");
  n = Number(input1);
}

alert("You entered the number: " + n + ", like we asked.");
```

- a. Suppose the user enters Hello and presses the OK button.  
Circle and mark with an A the condition that detects that this input is bad.
- b. Suppose the user enters 13 and presses the OK button.  
Circle and mark with a B the condition that detects that this input is bad.
- c. Suppose the user enters nothing and simply presses the OK button.  
Circle and mark with a C the condition that detects that this input is bad.
- d. Suppose the user enters -4 and simply presses the OK button.  
Circle and mark with a D the condition that detects that this input is bad.
- e. What can you as a user can do to trick this program into thinking you entered a number between 0 and 10 without actually having typed in a number between 0 and 10? This may take some trial-and-error and playing around with the program!

SI110 Introduction to Cyber Security  
Technical Foundations

1. The following program figures out the combined unoccupied volume of 3 boxes. Annotate the code to show how to change the program so that the **user must specify the size of each box**. Test your changes in the batch interpreter.

```
var length = 5;
var width = 5;
var height = 5;
var totalVolume = 0;
var boxCount = 0;
while(boxCount < 3)
{
    var contents = Math.ceil(length*width*height*Math.random());
    var boxVolume = length * width * height - contents;
    totalVolume = totalVolume + boxVolume;
    boxCount = boxCount + 1;
}
alert("The total unoccupied volume of your 3 boxes is " + totalVolume);
```

2. Check one:

- I did not test my answer to Question #1 in the batch interpreter.
- I tested my answer to Question #1 in the batch interpreter: it did not work.
- I tested my answer to Question #1 in the batch interpreter: it worked.

3. Annotate the code in #1 to allow the user to specify the number of boxes that are combined. Once again, test your answer in the batch interpreter.

4. Explain why replacing the line **while( boxCount < 3 )** with the line **while( boxCount < prompt("enter number of boxes") )** would not be a good way to do Question 2 (Hint: Try it in the batch interpreter!).