

## Lab 4: Is Number Prime?

This lab gives you the chance to code some MORE loops and if/else statements.

Short story – you input a number and your program determines if the number is prime.

If the number is prime, display an alert saying '?? is prime!!'

If the number is NOT prime, display an alert saying '??? is not prime. Factors are ??? and ???'

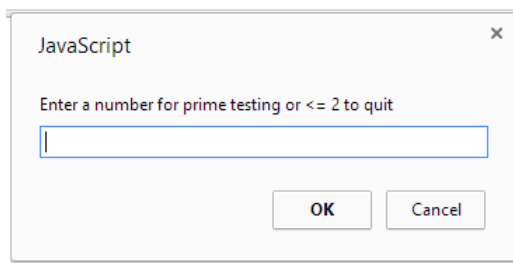
Prompt for another number to test.

As with other labs, you have a starter page, *numberisprime.html*, that contains helpful hints.

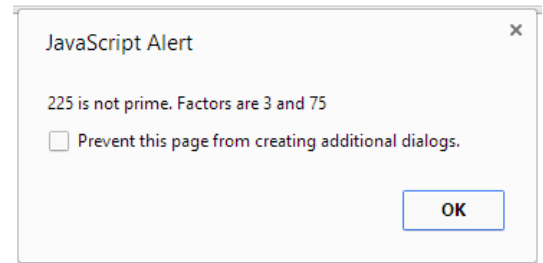
Here's what the program should resemble when you are done.

### A Sample Run

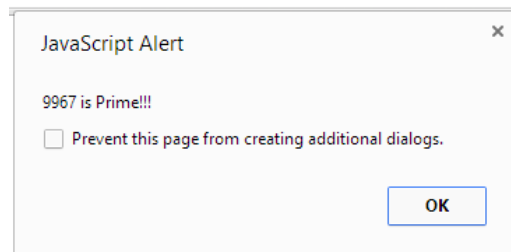
Run the page *numberisprimesol.html*. You'll see a *prompt* asking for a number:



Enter 225 and click OK.



Now try 9967. You should see:



### What to do...

Not much to say that is not included in the file *isnumberprime.html* and all the comments. There's a line of code (provided) that generates the *square root* of a number. As it turns out, for prime testing we need only exhaust all numbers  $\leq$  the square root of the candidate (think about it – it makes sense)

Also we need a way of determining if we've been *through the loop doing the divisions for testing*. The approach here is that *outside the loop that does the divisions*, if the index used in the loop exceeds the upper bound then we know we've tested ALL the possible numbers; therefore, the candidate is PRIME.