

Lab 3: Guess a Number

This lab gives you the chance to code some *while* and *if/else* statements.

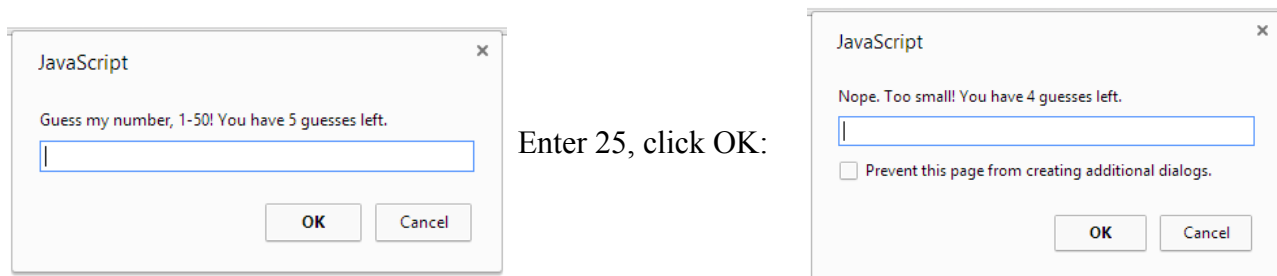
In short, your program will generate a random number between 1 and 50. You'll have 5 tries to guess the number.

If you guess too high, the program tells you 'Too high – try again'; if you guess too low, the program tells you 'Too low – try again'.

If you guess the number, the program writes the string 'YOU WIN!' to the screen. In all cases, the program eventually displays the random number.

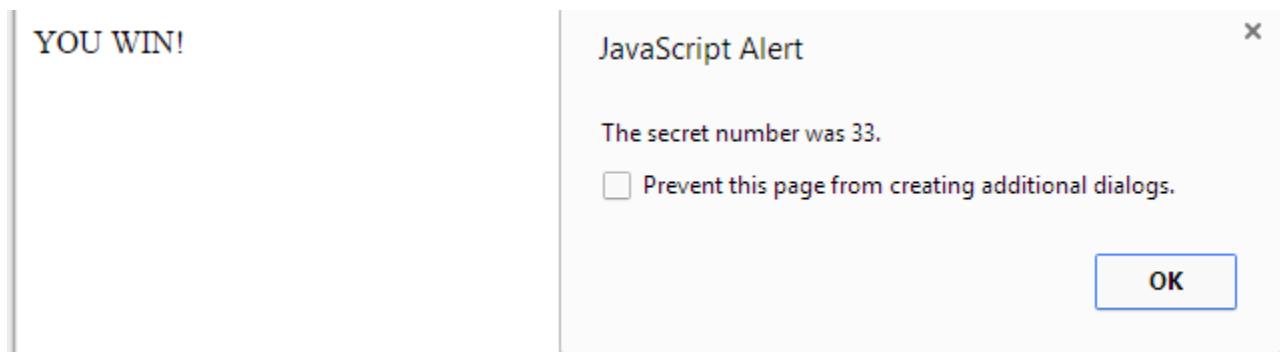
Here's what a typical execution of the program resembles:

Run *guessanumbersol.html*. Here's what you may see:



Note the prompt includes the number of guesses you have left.

If you guess correctly you'll see a screen similar to the one below:



Note the phrase 'YOU WIN!' displayed in the upper left part of the screen.

If you fail to guess the number you'll see the same *alert box* as above and you'll not see the 'YOU WIN!' string.

You'll have a *starter code file* in your Lab3 folder named *guessanumber.html* which provides hints and has some code included – which is described next,

guessanumber.html:

There's lots of hints here. First, let's look at some statements already coded for you.

```
// This is how you generate a random number in JavaScript
var randNum = Math.floor(Math.random() * 50) + 1;
```

We'll cover the *Math* object later in the course. For now, note how the *Math* object contains functions that do various numeric 'things'.

```
var turns = 5;
var hint = 'Guess my number, 1-50!';
```

The *turns* variable represents the number of tries you have. You'll decrease this number after each guess and include the remaining number of guesses in your prompt.

The *hint* variable is a string that you'll include in your message. As you check the guesses (Too high, Too low), you'll append the 'Too high' or 'Too low' message to the hint when prompting for the next guess.

```
// 1   Code an expression that PROMPTS the user for a guess
//      Assign the user input to a variable named guess
//      Put the HINT coded above and the remaining number of guesses

var guess =
```

Use the *prompt* function from last lab to display the string 'Guess my Number 1-50 – you have (# turns) left'

```
// 2   If user DOES NOT enter a number then BREAK from loop
//      If user CANCELS from PROMPT, BREAK from the loop
```

If you click *Cancel* from the prompt box, the prompt function returns *null*.

If you *don't enter anything*, the prompt function returns an *empty string*.

You can use *two conditions* to check this or think of *truthy/falsy* values and do it in one condition.

This statement writes text to the browser:

```
document.write('<p>YOU WIN!</p>') ;
```

This is part of the *Browser Object Model*; note the text is in the browser window, not an *alert box* or *console*.

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