Cross-Platform Mobile Application Development

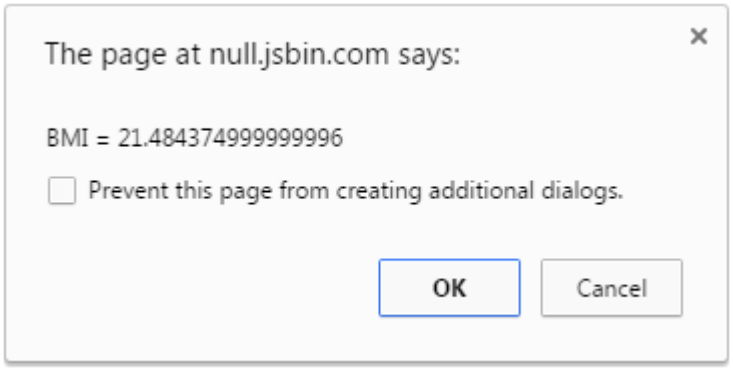
Lab 2 JavaScript

Exercise 2

- Use the following website to write your JavaScript code:
  https://jsbin.com/?js,console
  You should save all your work yourself.

- Write a JavaScript program to calculate a user's BMI (Body Mass Index). The formula for BMI is:
  - Weight (kgs) / Height (meters)^2

  So if your weight was 55kg and your height was 1.6meters your BMI would be 21.48
  Assume the user will enter his or her weight in KGs, and his or her height in Meters.
  Assume that the user will always enter a valid weight and height.
  Output should look like this:



  - HINT: The confirm function in JavaScript takes a String as a parameter. To combine many variables into strings use the + operator.

```
var weight=prompt("Enter your weight");
var height=prompt("Enter your height");
var BMI=(weight/(height * height));
confirm("BMI = "+BMI);
```

- Update the above JavaScript program to handle cases when the user enters invalid data for his or her weight or height. In such cases the program shouldn't attempt to calculate the user's BMI.

```
var weight=prompt("Enter your weight");
var height=prompt("Enter your height");
var BMI=(weight/(height * height));
if(isNaN(weight))
 {console.log("You did not enter a valid weight");}
else if (isNaN(height))
 {console.log("You did not enter a valid height");}
 else{confirm("BMI = "+BMI);}
```

- Write JavaScript code to allow the user to enter 2 numbers and display the smallest of the two numbers in the following format:

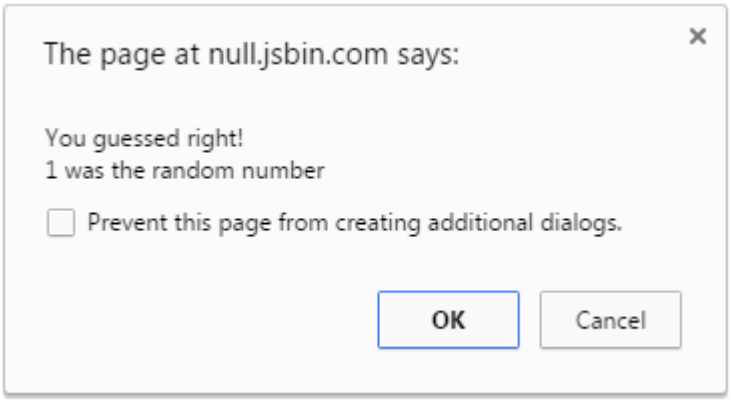
If the user enters an invalid number the program should display a message box stating “You must enter a valid number”, it should not attempt any comparison in this case.

  - HINT: Prompt always returns a String. To convert this to an integer use parseInt().
  - Assume the user never presses Cancel – no need to handle this case.

```
var num1=parseInt(prompt("Enter a num"));
var num2=parseInt(prompt("Enter a second num"));
if(isNaN(num1) || isNaN(num2))
 {
 console.log("You must enter a valid number");
 }

else if(num1<num2)
 {
  confirm("First Number ("+num1+") is less then Second Number
("+num2+")");
 }
else
 {
  confirm("Second Number ("+num2+") is less then the First Number
("+num1+")");
 }
```

- The following line of code will produce a random number between 1 and 5 inclusive
  `Math.floor((Math.random() * 5) + 1);`
  Use this code to write a JavaScript program to allow the user to take 1 guess at the random number (inform the user of the range).
  If he or she guesses correctly display the following:



    - HINT: "\n" is the symbol for a new line.

  If he or she guesses incorrectly display the following:

  No need to handle the case where the user guesses outside the range.

```
var randomnum = Math.floor((Math.random() * 5) + 1);
var usernum=parseInt(prompt("Have a guess what the random number is between 1 and 5!"));

for(var i=1; i>0; i--)
 {
  if(randomnum===usernum)
    {
      confirm("You guessed right!\n"+randomnum+" was the random number");
    }
  else
    {
      confirm("Sorry\n"+randomnum+" was the random number");
    }
 }
```

- Update the code so that the user can choose the upper limit of the random number range.

```
var upperLimit=prompt("Enter the upper limit of the random number range");
var usernum=parseInt(prompt("Have a guess what the random number is between 1 and "+upperLimit+"!"));
var randomnum = Math.floor((Math.random() * upperLimit) + 1);


for(var i=4; i>0; i--)
 {
  if(randomnum===usernum)
    {
      confirm("You guessed right!\n"+randomnum+" was the random number");
      i=0;
    }
  else
    {
      confirm("Sorry\n"+randomnum+" was the random number!");
     usernum=parseInt(prompt("Try again..enter a num between 1 and "+upperLimit));
    }
  //noprotect
 }
```