

JSLab 1: JavaScript Practice 2

1. Make sure you review and understand the material covered in the powerpoints in class.
2. Try to implement some of the code in the powerpoints:
 - a. Hints: DON'T COPY FROM THE POWERPOINTS
 - i. The browser doesn't like all of MS Office's characters, most notably the ", the ', the -, the ;, and just about any other special character you might use.
 - b. If nothing is working, there's probably a typo you'll have to find.
 - i. Look for capital letters where there should be a small one, and vice versa
 - ii. Look for missing " " (if you open it, you must close it)
 - iii. Same with { and }
 - iv. Same with (and) – for every one of the first, you must have one of the second.
 - c. Finally, make sure your html is valid (again, if you opened a tag, you should close it)
3. Complete the following exercises:

Problems (due Thursday at Midnight):

Note: If you choose, you can work with partners for these problems. I suggest that if you choose to work with a partner, you choose a partner who is in lab with you, but If you choose to work with a partner in another lab, you are responsible for communicating with your partner. Make sure you put BOTH names on the problems. Make a folder named JSLab2, and place all of the web pages for the problems in the folder. Upload the folder with the web pages to the server, and submit the URL of the folder on sakai. Only one partner should submit, but if one partner fails to submit, both partners are responsible.

1. (5 pts) Write a web page with a script that contains a confirm box asking, "Would you like to see text in red?" If the user clicks ok, use document.write to write out "hi there" in red text. Otherwise, write out, "Nevermind" in black text.
2. (8 pts) Write a web page with a script that contains an array of insulting sentences. Now generate a random number between 0 and the length of the array. Use the confirm box to ask, "Want to know what I think?" If the user clicks "ok", use document.write to write out the insult in the array corresponding with the random number. If the user clicks "cancel", use document.write to say, "Honestly, I like you."
3. (8 pts) Write a web page that contains an image, with the width and height set appropriately. Create a script with a prompt, "Do you want to see a cat or a dog?" (You can pick the things you want to give the user a choice of seeing – it doesn't have to be a cat or a dog). Now, depending on their answer, use getElementById to change the image to a cat or a dog (or whatever you chose), along with adjusting the width and height to be appropriate to the new image.

4. (5 pts) Write a web page that contains a paragraph. Then write a script that uses a prompt to ask, "What would you like the world to know?" Whatever the user types in should then be what the paragraph's text is changed to.

5. (10 pts) Use comments to locate and debug the following code:

```
<!DOCTYPE html>
<html>
  <head><meta charset= "utf-8" /></head>
  <body>
    <script>
      var EngArr = new Array()
      EngArr[0] = "dog"
      EngArr[1] = "cat"
      EngArr[2] = "hello"
      EngArr[3] = "Thank you"
      EngArr[4] = "bunny"

      var FrenchArr = newArray()
      FrenchArr[0] = "chien"
      FrenchArr[1] = "chat"
      FrenchArr[2] = "bonjour"
      Frencharr[3] = "merci"
      FrenchArr[4] = "lapin"

      var ans = prompt("Pick a number (0 - 4)")
      var frenchans = promtp("What is the French translation of " + EngArr[ans] + "?")
      if (frenchans.toLowerCase() == FrenchArr[ans])
      {
        document.write("<p> You're right! </p>") }
      }
      else if (frenchans.toLowerCase() != FrenchArr[ans])
      {
        document.write("<p> Sorry. You're no good at this. </p>")
      }
    </script>
  </body>
</html>
```

(Note: the first thing I'd do is put a document.write right above the closing script, then comment all the rest of the code in the script out. If the write at the bottom works, I know that the code outside of the comment is okay. If, however, the write at the bottom doesn't work, then there's a bug in the code outside of the comment.)

6. (10 pts) Use comments to debug the following code:

```
<!DOCTYPE html>
<html>
  <head><meta charset= "utf-8" /></head>
  <body>
    <h1>Learn about <span id = "animal">animals</span></h1>
    <p id = "firstp"> You can learn so much about every animal in the zoo!</p>

    <script>
```

```

var animals = new Array()
animals[0] = "lions"
animals[1] = "giraffes"
animals[2] = "penguins"
animals[3] = "polar bears"

var info = new Array()
info[0] = "Lions are the second largest big cat species in the world (behind tigers)."
info[1] = "A male giraffe can weigh as much as a pick up truck!"
info[2] = "Penguins spend around half their time in water and the other half on land."
info[3] = "Polar bears keep warm thanks to nearly 10 cm of blubber under the skin."

var x = confirm("Would you like to learn about an animal?")

if (x = true)
{
    var num = Math.floor(Math.random()*4)
    document.getElementById("animai").innerHTML = animal[num];
    document.getElementById("firstp").innerHTML = info[mum];
}

</script>
</body>
</html>

```

7. (8 pts) Write a web page with a paragraph that says "I'm thinking of a number..." Add to the page a button that says on it, "Click here to find out the number". The button should call a function. Now write a function inside a script that generates a random number between 1 and 100 and writes "The number is " and then the number. Write it inside the paragraph on the page (using getElementById).
8. (10 pts) Create a web page with a header, some paragraphs, and an image on it. Add a button that says, "Click here for better accessibility". Make the button call a function. The function should change the style of the page to adapt to the needs of people with low vision (e.g., bold font, large font, arial font, high contrast, make the image(s) on the page larger, and make the image have a longer alt tag).
9. (10 pts) Write a web page with a couple of small pictures on it representing different holidays (or sports, or cars, or singers – whatever you choose). There should be at least 3 pictures on the page. There should also be a paragraph on the page. And there should be 3 different buttons, each calling a different function. In each of the 3 functions. It should make the corresponding image larger. It will also change the paragraph on the page's content to tell you more about the picture. In addition, it should change the entire web page's style to represent the picture.
10. (14 pts) Write a function with with 4 images on it (two for your dice, and two for the computer's dice). The page should also have a paragraph on it (it can start out saying something like, "see how you do against the computer"). It should also have one button on it, saying "Click here to roll the dice". Clicking on the button should call a function.

The function should have an array of 6 pictures, each picture being a different face of a die (the singular of dice). Your function should generate 4 random numbers, each between 0 and 6. The first random number will cause the picture in the array at that number to be displayed in the first image on the page. The second random number will cause the picture in the array at that number to be displayed in the second image in the page, the third random number will cause the picture in the array at that number to be displayed in the third image on the page, etc. for the fourth image.

Now, remember, the first two images (and hence the first two random numbers) are your dice roll, and the third and fourth images (and hence the third and fourth random number) are the computer's dice roll. You need to figure out and print out who won using the following criteria: If either of the computer's dice is a 1, the computer loses and you win (and that should be printed out in the paragraph on the page).

Remember, the array should go from 0 – 5, but the die pictures will go from 1-6. This means that if you want to check to see if either of the random numbers is a 1, you would say the following:

```
if (randnum3 == 0) || (randnum4 == 0)
{
  ...
}
```

|| means or in JavaScript.

Otherwise, if either of your dice is a 1, you lose and that should be printed out to the paragraph on the page.

Otherwise, if your total dice roll (the sum of both your dice) is greater than the total dice roll of the computer, you win, whereas if the computer's total dice roll is greater than your roll, the computer wins, whereas if you both roll the same amount, it's a tie. This should be printed out accordingly in the paragraph on the page.

Add comments throughout your code describing what you are doing (notes to yourself and to the TA so your code is easier to read – I'm not as concerned with what you write at this point so much as that you get used to leaving notes about what you're trying to do with your code).

11. (12 pts) Write a web page with an image and a corresponding paragraph. Create a button below the image and paragraph, and then a second paragraph below the button.

Now have the button call a function.

The function should contain 2 equal-length arrays: An array of pictures of faces displaying emotions, and a corresponding array of sentences describing the emotion. Then the function should generate 2 different random numbers. The first should cause the picture at that number in the array of pictures to be displayed in the image on the page. The second random number should cause the sentence in the array of descriptions to be displayed in the images corresponding paragraph on the page.

A confirm box should then ask the user, "Do these go together?"

If the user clicks “ok” and the two random numbers match, you should write to the third paragraph, “Good job! You are correct.” If the user clicks “ok” and the two random numbers don’t match, you should write out, “Sorry, that is not correct.”

If the user clicks “cancel” and the two random numbers match, you should write, “Sorry, you’re wrong. These two do match”, and if the user clicks “cancel” and the two random numbers don’t match, you should write to the paragraph, “Correct, these two don’t belong together.”

(Note: this could be a training exercise for children with autism. If you want to use this methodology to create a training tool, for, say, a foreign language (with pictures of something and a description in a different language), or anything else, you can. I don’t care what the array of pictures and the array of sentences contain, just that you create the training tool).

Add comments throughout your code describing what you are doing (notes to yourself and to the TA so your code is easier to read – I’m not as concerned with what you write at this point so much as that you get used to leaving notes about what you’re trying to do with your code).

Note: *If, for some reason this doesn’t work in Chrome, try running it in Firefox. Chrome is funny about when it actually executes statements (there’s a way around this that we’ll learn shortly). In the meantime, just run it in Firefox.*

To Turn In:

A folder called JSLab2, containing web pages for problems 1-4 and 7-11 (and the corresponding images), and working code for problems 5 and 6.