**CSP Unit 5 Basics of Lists**

**To create a list:**

var listName = [ \_\_\_,\_\_\_,\_\_\_ ];

var listEx = [5,”hi”,29];

Each one is called an element of the list, and each placement is called its index

The index starts at 0: (5 has an index of 0, “hi” has an index of 1, and 29 has an index of 2)

listEx[1] then refers to “hi” because it is has an index of 1

**To alter/change an element in the list:**

listEx[1]=”bye” would change the element at index 1 from “hi” to “bye”

Now listEx = [5, ”bye”, 29]

\*Note the list is still the same size and the index #s do not change\*

**To remove an element from the list:**

removeItem(listName,index#)

removeItem(listEx,1) would take “bye” out of the list

Now listEx = [5, 29]

\*Note the list now only has 2 elements so the index # of 29 is now 1, not 2\*

**To add an element to the end of the list (append):**

appendItem(listName,new element)

appendItem(listEx,”code”) would add “code” to the end of the list

Now listEx = [5, 29, ”code”]

\*Note the list now has 3 elements: “code” has an index of 2\*

**To insert an element into the list at a particular location:**

insertItem(listName,index where you want it to go, what you want to add)

insertItem(listEx, 1, “CSP”) would add “CSP” into the 2nd spot in the list (remember, the first location has an index of 0)

Now listEx = [5, “CSP”, 29, “code”]

\*Note the list has 4 elements and the index #s have to be adjusted again. 29 is back to an index of 2 and “code” has an index of 3\*

**To find the length of a list:**

listName.length

listEx.length = 4 because there are 4 elements in the list

\*It is easy to get confused between the length and the index of the last element

listEx.length - 1 will be the index of the last element (if there are 4 elements in the list, the last element will have an index of 3)

**To find the length of a string:**

stringName.length

Ex

var name = “pumpkin pie”

name.length would be 11 (the space counts as part of the string so there are 10 letters and one space, giving it a length of 11)

**To find a portion of a string (substring):**

stringName.substring(start,end)

\*This will give you the starting letter and list UP TO the end element, but will NOT list the end element)

Ex

var name = “pumpkin pie”

name.substring(2,6) would give you mpki

The first element starts at 0, so the m is at index 2. It will list elements at index 2,3,4, and 5 (it lists UP TO 6, but not the 6th element)

**EXTRA INFO:**

A great use of substring is if the user enters their full name and you want to just call them by their first name.

Ex.

var myName = “Nikki Pitcher”;

var space;

var firstName;

First, you want to find where the space is in the name.

To do this, use string.indexOf(what you are looking for)

space = myName.indexOf(“ “) would give me 5 (the space is located at index 5)

firstName = myName.substring(0,space) would give me Nikki (it would start at the beginning and stop before it hits the space)

console.log(“Hi “+firstName) would display Hi Nikki