Homework #JSIII

1. Explanations of terms as explained to a 12-year-old –

* **Arrays** are what is called a data structure in computer science. This means, basically, that arrays are like a container to store things in. These things are values that are all related in some way, so that is why we want to store them together. So, we can group these related values together and put them in an array and we store them all in one variable, which is the name of our array. The items in the array are arranged numerically, and given an index value starting from 0 for the first item up to the last item in the array, so the last item will be will have the index value of the number of items in the array – 1. This means we can reference each item in the array with the array’s name and the index of the item put in square brackets. For example, the first item in the array will always be referenced by *arrayName*[0], the second *arrayName*[1], the third and fourth will be *arrayName*[2] and *arrayName*[3]. Basically, all the index values are one less than the counting number if we counted starting with 1. After we make an array, we can then do all types of calculations, and manipulations of the items in the array by looping over the items from beginning to end to perform the calculations. An example of what an array could be used for would be if you want to keep track of the ages of all of the students in your class and then find the average age of the students. You could store the age of each student as a value in your array called *ages*, and then you could calculate the average age by looping over all the values in the array to do the calculation. Another example of what an array could be used for would be, perhaps, to store the names of all of your songs that you have in your music collection. Then you could loop over the songs to play each of them.