

ANNOUNCEMENTS

- ❖ You must implement programming projects by yourself.

DATA TYPES

- ❖ Primitive data types in JavaScript
 - ❖ Numbers
 - ❖ Strings
 - ❖ Booleans
- ❖ Composite Data Types
 - ❖ Objects
 - ❖ Arrays
- ❖ All numbers are represented as floating-point values.
- ❖ To represent a single character using a string of length 1.
- ❖ You can use ' ' or " " for strings although we will use " " in this class.
- ❖ Remember floating-point values are approximations.
- ❖ Special numeric values
 - ❖ NaN – Not a Number
 - ❖ Number.MAX_VALUE – maximum value possible
 - ❖ Number.MIN_VALUE – smallest (closest to zero) number
 - ❖ Number.NaN – Not a Number
 - ❖ Number.POSITIVE_INFINITY
 - ❖ Number.NEGATIVE_INFINITY

FOR LOOP

- ❖ Iteration statement
- ❖ General form

***for (initialize; test; expression)
statement***

basically equivalent to

***Initialize
while (test) {
 statement
 expression
}***

If more than one statement use { }

- ❖ Example: ForLoops.html
- ❖ Example: ForLoopVariations.html

NESTED LOOPS

- ❖ You can combine if, while, and do while statements in several ways
 - ❖ You can have an several nested if statements.
 - ❖ You can have if statements within while statements.
 - ❖ You can have while statements within if.
- ❖ Example: MultiplicationTable.html

ONE-DIMENSIONAL ARRAYS

- ❖ **Problem** - You need to keep track of the scores of students in a class.
 - ❖ Declaring and handling 50 variables is not an easy task.
 - ❖ Arrays come to the rescue.
- ❖ **Array** – Collection of values that can be treated as a unit or individually.

```
var a = new Array(4);
```

- ❖ You can visualize an array as a set of variables one after another.
- ❖ **Indexing** – We access an element using []
 - ❖ First element associated with index 0 (e.g., a[0])
- ❖ An element of an array can be of any type and an array can hold different types of elements.
- ❖ The length property represents the length of the array (e.g., a.length)
- ❖ We can print the contents of an array by using alert.
- ❖ For loops are often used with arrays.
- ❖ **Example:** ArrayEx.html

DEFINITION OF ONE-DIMENSIONAL ARRAYS

- ❖ Via array literal – comma separated list of elements within square brackets
 - ❖ `var a = [2, 3, 5];`
 - ❖ `var b = []; // empty array`
- ❖ Specified in the Array constructor
 - ❖ `var c = new Array();`
 - ❖ `var d = new Array(2, 3, 5); // initializes array with 2, 3, 5`
 - ❖ `var e = new Array(4); // defines array of size 4`