More About Strings

Strings are arrays of characters (more accurately, you can read individual characters the same way you read specific values in a numerical array, and these individual values are strings of length 1). However, you cannot write individual characters in a string in this same way. Once a string is defined, individual characters can be referenced by [ ] but not changed. Strings are immutable: they can be completely replaced in their entirety, but not changed piecewise. To manipulate string characters, you must split the string into an array, make individual changes within that array, then join the array to reform a string.

Below are examples of declaring strings, referencing individual elements, using String.length, converting a string to array with String.split, and converting array back to string with Array.join.

```
var funStr = "Emma shreds on her electric cello";
console.log(typeof funStr); // "string"
var oneChar = funStr[26]; // "c"
console.log(typeof oneChar); // "string"
```

String.length method

```
console.log(funStr.length); // 33
console.log("".length); // 0
```

String.split (converts string to array, splitting on the provided parameter)

```
wordArray = funStr.split(" ");
// Note: " " never appears in result:
// [ "Emma", "shreds", "on", "her",
// "electric", "cello" ]
console.log(wordArray [5].split("");
// Split on every letter:
// [ "c", "e", "l", "l", "o" ]
```

Array.join (converts array to string, using provided parameter as separator)

```
console.log(wordArray.join());
// Note: "," is used by default:
// "Emma,shreds,on,her,electric,cello"
console.log(wordArray.join("-"));
// Param "-" inserted between words:
// "Emma-shreds-on-her-electric-cello"
console.log(wordArray.join(""));
// "Emmashredsonherelectriccello"
```

Challenge: what is displayed by the following? Why?

```
console.log(1 + 2 + "3" + "4" + 5 + 6);
```

This chapter explores strings – a special case of the basic array – then associative arrays. By now you should be able to easily complete the “Basic 13” algorithm challenges in less than 2 minutes each.