1. Write a program that will iterate from 0 to 10 and display squares of numbers.

```
for (var x = 0; x <= 10; x++) {
    console.log(x * x);
}
```

2. Write a `for` loop that will iterate from 0 to 15. For each iteration, it will check if the current number is odd or even, and display a message to the screen.

```
for (var x = 0; x <= 15; x++) {
    if (x % 2 === 0) {
        console.log(x + " is even");
    } else {
        console.log(x + " is odd");
    }
}
```

3. Write a program to sum the multiples of 3 *and* 5 under 1000.

```
    var sum = 0;
    for (var x = 0; x < 1000; x++) {
        if (x % 3 === 0 && x % 5 === 0) {
            sum += x;
        }
    }

    console.log(sum);
```

4. Write a program to compute the sum and product of an array of integers.

```
var array = [1, 2, 3, 4, 5, 6];
var sum = 0;
var product = 1;
var i;

for (i = 0; i < array.length; i += 1) {
    sum += array[i];
    product *= array[i];
}

console.log('Sum : ' + sum + ' Product :  ' + product);
```

5. Write a program that prints the elements of the following array as a single string.

```
var x = ['1', 'A', 'B', "c", "r", true, NaN, undefined];
```

```
var x = ['1', 'A', 'B', "c", "r", true, NaN, undefined];
var output = '';

for (var i = 0; i < x.length; i++) {
   var element = x[i];
   output += element;
}

console.log(x.length);
console.log(output);
```

6. Write a program that prints the elements of the following array.

```
var a = [
            [1, 2, 1, 24],
            [8, 11, 9, 4],
            [7, 0, 7, 27]
      ];
```

```
// a sample 2-D array
var array = [
    [1, 2, 1, 24],
    [8, 11, 9, 4],
    [7, 0, 7, 27]
];

for (var i in array) {
    console.log("row " + i);
    for (var j in array[i]) {
        console.log(" " + array[i][j]);
    }
}
```

7. Write a program that outputs the sum of squares of the first 5 numbers.

```
var sum = 0;
var arr = [0, 1, 2, 3, 4];

for (var i = 0; i < arr.length; i++) {
    sum += arr[i] * arr[i];
}

console.log(sum);
```

8. Write a program that computes average marks of the following students. Then use this average to determine the corresponding grade.

David	80
Marko	77
Dany	88
John	95
Thomas	68

The grades are computed as follows :

< 60%	F
< 70%	D
< 80%	C

< 90%	B
< 100%	A

```
var students = [
    ['David', 80],
    ['Marko', 77],
    ['Dany', 88],
    ['John', 95],
    ['Thomas', 68]
];

var sumOfMarks = 0;

for (var i = 0; i < students.length; i++) {
    sumOfMarks += students[i][1];
}

var avg = sumOfMarks / students.length;

console.info("Average grade: " + avg);

if (avg < 60) {
    console.log("Grade : F");
} else if (avg < 70) {
    console.log("Grade : D");
} else if (avg < 80) {
    console.log("Grade : C");
} else if (avg < 90) {
    console.log("Grade : B");
} else if (avg < 100) {
    console.log("Grade : A");
}
```

9. Write a program that uses `console.log` to print all the numbers from 1 to 100, with two exceptions. For numbers divisible by 3, print "Fizz" instead of the number, and for numbers divisible by 5 (and not 3), print "Buzz" instead. When you have that working, modify your program to print "FizzBuzz", for numbers that are divisible by both 3 and 5 (and still print "Fizz" or "Buzz" for numbers divisible by only one of those).

```
for (var i = 1; i <= 100; i++) {
    if (i % 3 === 0 && i % 5 === 0) {
        console.log(i + " FizzBuzz");
    } else if (i % 3 === 0) {
        console.log(i + " Fizz");
    } else if (i % 5 === 0) {
        console.log(i + " Buzz");
    } else {
        console.log(i);
    }
}
```

Note: This is actually an interview question that has been claimed to weed out a significant percentage of programmer candidates. So if you've solved it, you're now allowed to feel good about yourself.