



FORMATION FULL STACK

החוכה, משרד העבודה
החברתיים והשיחתיים



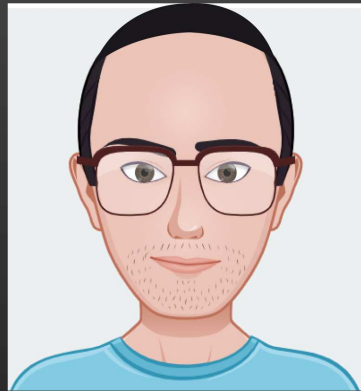
JAVASCRIPT – CHAPTER 1 Getting Started

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{web}

WebSchool 6379f32e56e15a0e6202404e



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Default Variable Value Assigning

```
var myBool = false;  
var myString = "";  
var myNum = 0;  
var myArray = [];  
var myObject = {};  
var myUnknown = null;
```

Let's start coding!!

Let's start coding!!

Incorporating JavaScript

```
<script></script>
```

- Internally
- Externally

Internal Incorporation

```
<html>  
<head>  
</head>  
<body>  
    <h1>Welcome to JavaScript!</h1>
```

```
    <script>  
        var a = 5;  
    </script>  
</body>  
</html>
```

External Incorporation

HTML



JS



CSS



```
➤ folder default
  ➤ folder css
    file style.css
  ➤ folder js
    file main.js
  file index.html
```

index.html

```
<html>
<head>
  <link href="css/style.css" rel="stylesheet">
</head>
<body>
  <h1>Welcome to JavaScript!</h1>

  <script src="js/main.js"> </script>
</body>
</html>
```

main.js

```
var a = 5;
```



main.js

```
var a = 5;  
alert(a);
```


main.js

```
var a = 5;  
a = a + 5;  
alert(a);
```

```
var age = 35; // Number
var name = "Meir"; // String
var message = "My name is " + name + " and I am " + age + " years old.";
alert(message);
```

For now, for all inputs, use
Prompt(). EX:

Input:

```
var a = prompt("Enter num");
```

For now, for all outputs, use:
`alert();`

And don't forget to declare
all new variables!

READY?

GIVEN

$a = 3$
 $b = 4$

START

a, b

Input

```
a ++;  
c = (a + 2) * b;  
a ++;
```

Statement

$c \% a$

Output

STOP

Built-in JavaScript OBJECTS

Math

Properties

```
Math.PI; // Returns 3.14159...  
Math.SQRT2; // Returns 1.414
```

Built-in JavaScript OBJECTS

Math

Methods

```
Math.sin(1) * 10; // Returns 8.4147...  
Math.cos(0 * Math.PI / 180); // Returns 1  
Math.abs(-5.5); // Returns 5.5  
Math.sqrt(81); // Returns 9  
Math.pow(3, 3); // Returns 27 (like 3 ** 3)  
Math.round(3.3); // Returns 3  
Math.round(3.6); // Returns 4 (5.5 return 6)
```

Built-in JavaScript OBJECTS

Math

Methods

```
Math.floor(20.987); // Returns 20  
Math.floor(-20.187); // Returns -21  
Math.ceil(20.122); // Returns 21  
Math.ceil(-20.922); // Returns -20  
  
Math.trunc(20.587); // Returns 20  
Math.trunc(-20.587); // Returns -20
```


Built-in JavaScript OBJECTS

Math.random()

```
Math.random();  
// Returns random number between 0 and 1  
// Example: 0.2215475554785
```

```
var max = 300;  
Math.random() * max;  
// Returns random number between 0 and 300  
// Example: 234.3254458 or 25.632544
```

Built-in JavaScript OBJECTS

Math.random()

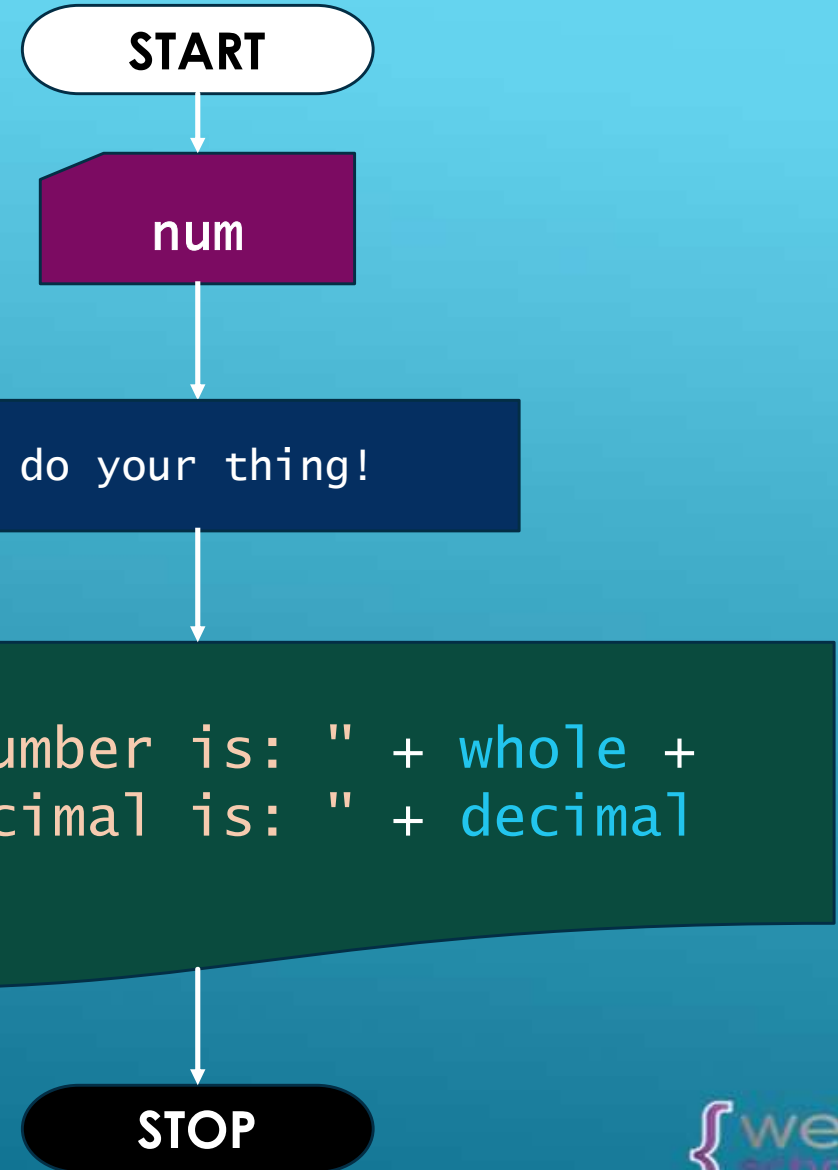
```
Math.floor(Math.random() * 100);  
// Returns random number between 0 and 99
```

```
Math.floor(Math.random() * 100) + 10;  
// Returns random number between 10 and 109
```

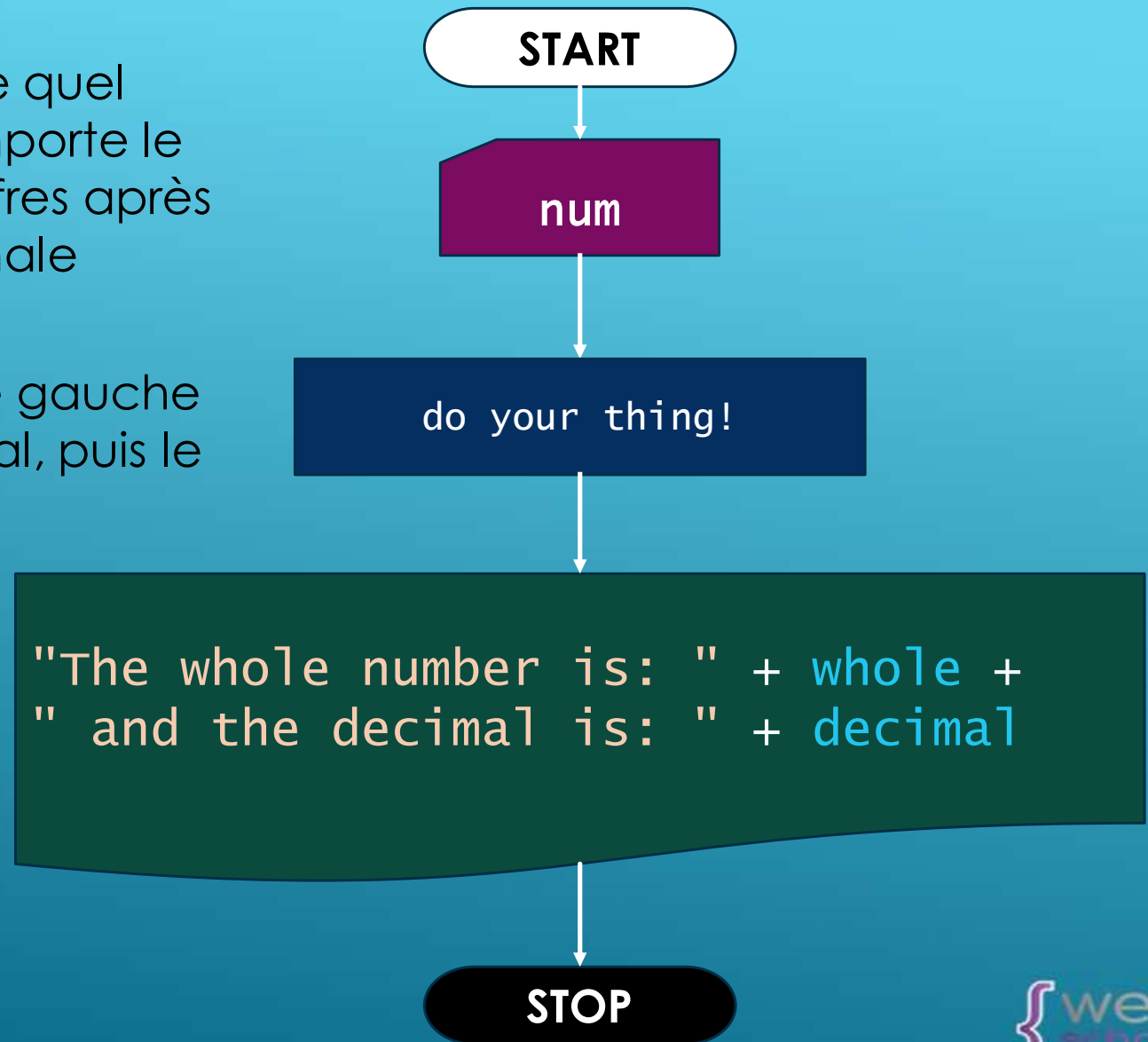
```
Math.floor(Math.random() * 90) + 11;  
// Returns random number between 11 and 100
```

קלט: כל מספר, לא משנה כמה מספרים עשרוניים.

► **פלט:** הצד השמאלי של הנקודה עשרונית, ולאחר מכן את הצד הימני.



- ▶ **INPUT:** N'importe quel nombre, peu importe le nombre de chiffres après la virgule décimale jusqu'au "."
- ▶ **OUTPUT:** Le côté gauche du point décimal, puis le côté droit.



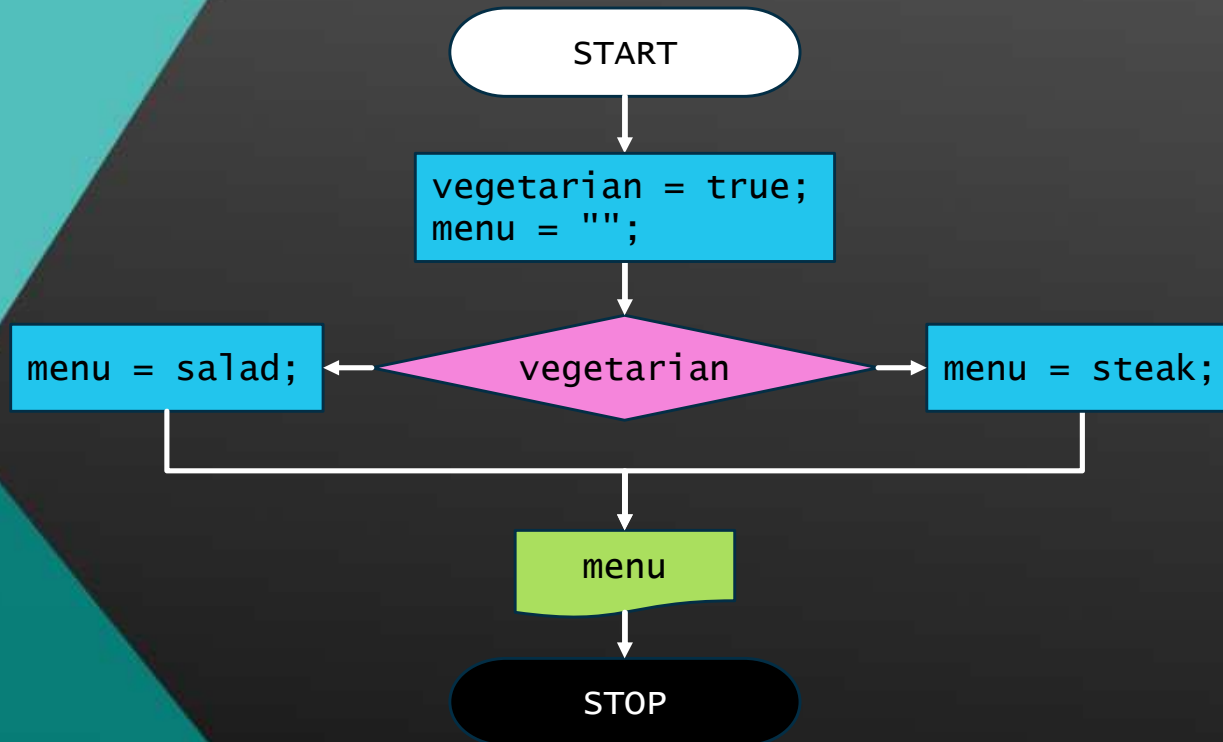
Solution:

```
var num = Math.random() * 100;  
var whole = Math.trunc(num);  
var decimal = num - whole;
```

```
var message = "The whole number is: " + whole + " and the decimal is: " +  
decimal;  
alert(message);
```

THE IF

```
var a = "Something";  
if (condition) {  
    statement;  
} else if (condition) {  
    statement;  
} else if (condition) {  
    statement;  
} else {  
    statement;  
} alert(a);
```



```
var vegetarian = true;  
var menu = "";
```

```
if (vegetarian) {  
    menu = "salad";  
} else {  
    menu = "steak";  
} alert(menu);
```

EXERCISE # 2

- ▶ En janvier, mon salaire a été déposé dans mon compte, doublant mon solde.
- ▶ Mon loyer régulier est dû.
- ▶ En février, je n'ai reçu que la moitié de mon salaire de janvier.
- ▶ Vérifiez si vous pouvez maintenant payer le loyer de janvier
- ▶ Mon loyer régulier, avec 200 \$ de plus, est dû. (Facture d'électricité élevée 😊).
- ▶ Mon paiement de carte de crédit de 500 \$ a été accepté.
- ▶ En mars, je n'ai pas touché de salaire, quelque chose s'est passé et mon compte est maintenant à 0.
- ▶ **OUTPUT:**
 - Le nombre qui représente le mois,
 - le montant ENTIER (en ignorant les cents, s'il y en a) du cadeau/vol qui a eu lieu,
 - le montant du loyer dû,
 - et si Gift = true / false.

**Le loyer ne peut
être payé qu'en
totalité**

EXERCISE # 2

Rent can only
be paid in full!

- ▶ In January, my salary was deposited in my account, doubling my balance.
- ▶ My regular rent is due.
- ▶ In February, I only got half my January salary.
- ▶ Check if you can now pay the January rent.
- ▶ My regular rent with an additional \$200 is due. (High electricity bill 😊)
- ▶ My credit card charge of \$500 went through.
- ▶ In March, I didn't make a salary, something happened, and now my account is at 0
- ▶ **OUTPUT:**
The number of the month,
the WHOLE amount (ignoring cents, if any) of the gift/robbery that occurred,
the amount of rent owed,
and if Gift = true/false.

EXERCISE # 2

ניתן לשלם שכר
דירה במלואו!

▶ בחודש ינואר, המשכורת שלי הופקדה בחשבוני, ומכפילה את יתרת החשבון שלי.

חיוב של שכר הדירה הרגיל שלי הגיע.

▶ בחודש פברואר, קיבלתי רק חצי ממשכורת ינואר.

בדוק אם אתה יכול לשלם כעת עבור דמי השכירות של ינואר.

חיוב של שכר הדירה הרגיל שלי הגיע, עם ₪200 נוספים. (חשבון חשמל גבוה 😊)

חיוב התשלום של כרטיס האשראי ל-₪500 עבר.

בחודש מארס לא קיבלתי משכורת, משהו קרה, ועכשיו יתרת החשבון שלי הוא 0.

פלט:

מספר החודש שבו נמצאים.

את הסכום המלא (ללא אגורות, אם בכלל) של המתנה/שוד שקרה.

כמה אני חייב לבעל דירה שלי.

▶ האם המשתנה "gift" הוא true - או false

EXERCISE # 6

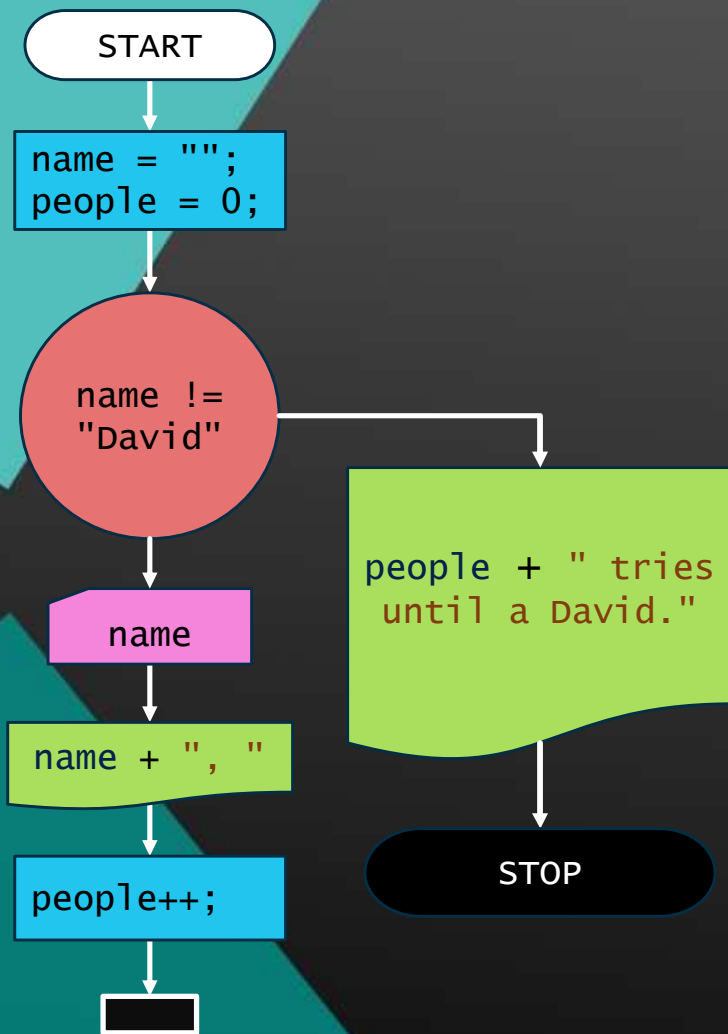
Code your bio as an object. Your object must contain one or more of each:

- ▶ An integer
- ▶ A string
- ▶ A boolean
- ▶ An array
- ▶ An object
- ▶ An array of objects
- ▶ A method

```
const user = {  
  fullName: { firstName: "Bob", lastName: "Roberts" },  
  ID: 123456789,  
  DOB: "21/12/1980",  
  creditCards: [{ name: "visa", number: 418...789, exp: "08/21", cvv: 456 },  
    {name: "mastercard", number: 437...384, exp: "12/19", cvv: 665 },  
    {name: "amex", number: 538...301, exp: "04/24", cvv: 7908 }],  
  qtyCreditCards: function () {  
    return user.creditCards.length;  
  }  
};
```

THE WHILE

```
var a = "Something";  
while (condition) {  
    statement;  
} alert(a);
```



```
var name = "";  
var people = 0;
```

```
while (name != "David") {  
    name = prompt("Enter a name:");  
    console.log(name + ", ");  
    people++;  
} var message = people + " tries until a David";  
alert(message);
```

toLowerCase()

Converts the text to
all lower case

prompt().toLowerCase()

Converts the text to
all lower case

```
var name = "";  
var people = 0;  
  
while (name != "david") { // make the verification lower case  
    name = prompt("Enter a name:").toLowerCase();  
    console.log(name + ", ");  
    people++;  
} var message = people + " tries until a David";  
alert(message);
```


EXERCISE # 3

- ▶ **INPUT:** A whole number.
- ▶ **OUTPUT:** The whole number, but backwards.

Ex: Input -> **1234** Output: -> **4321**

Ex: Input -> **-987** Output: -> **789-**

Solution:

```
var num = prompt("Enter a whole number:"); // Example 1234
var result = "";
var dash = "";
if (num < 0) { // A negative number
    dash = "-"; // Keep the minus symbol for later
    num = -num; // turn the negative into a positive
} while (num != 0) {
    result += num % 10; // gets the last number by itself
    num = Math.trunc(num / 10); // Turns the 1234 into 123.4, then 12.3
} result = result + dash;
console.log(result);
```

parseInt()

Converts a stringified number
into an actual number

From: "35" → To: 35

From: "35.558" → To: 35

parseInt(prompt())

Converts a stringified number
into an actual number

From: "35" → To: 35

From: "35.558" → To: 35

parseFloat()

Converts a stringified number
into an actual number

From: "35.558" → To: 35.558

isNaN()

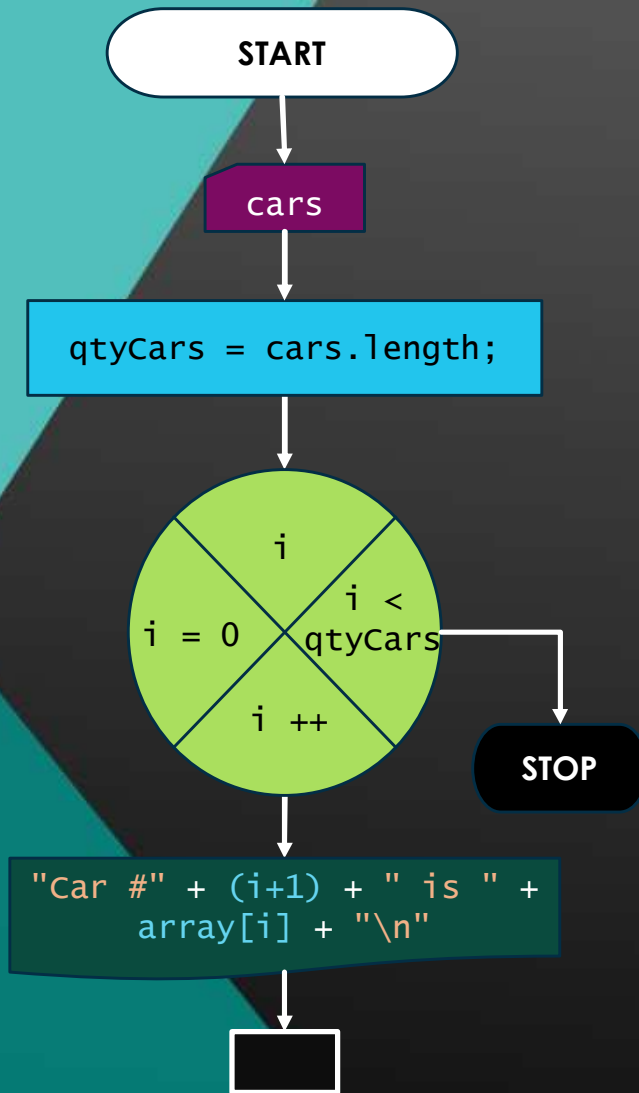
Returns Boolean
True if not a number

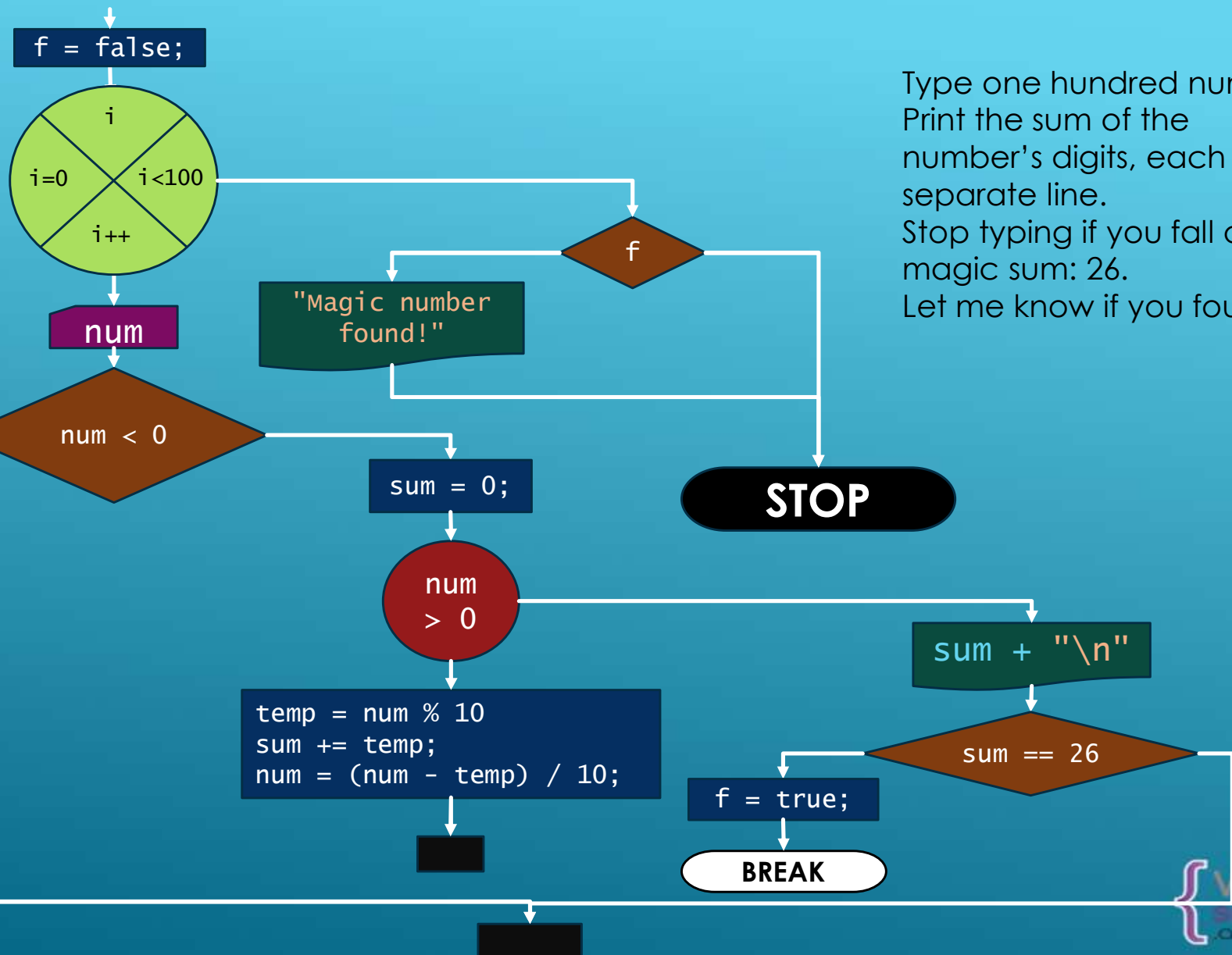
isNaN(num)

Returns Boolean
True if not a number

THE FOR

```
var cars = ["Mazda", "BMW", "Ford"];  
var qtyCars = cars.length;  
var text = "";  
for (let i = 0; i < qtyCars; i++) {  
  text += "Car " + (i + 1) + ": " + cars[i] +  
    "\n";  
} console.log(text);
```





Type one hundred numbers.
Print the sum of the
number's digits, each on
separate line.
Stop typing if you fall on the
magic sum: 26.
Let me know if you found it.

Built-in JavaScript OBJECTS

window

Browser Object Model

All standard properties and methods called belong to the "window"

Built-in JavaScript OBJECTS

window

What you know so far:

Properties

`window.Math.PI`
`window.location.href`

Methods

`window.Math.random();`
`window.alert();`

Built-in JavaScript OBJECTS

window

What you know so far:

Properties

`Math.PI`

`location.href`

Methods

`Math.random();`

`alert();`

Built-in JavaScript OBJECTS

window

Something new:

```
console.log();  
prompt("Enter an input:"); //string value  
confirm("Are you sure?"); //boolean value
```

```
open(url);  
open(url, "_blank");  
close(); // only works to  
         close if opened with open() {web  
                                         school}
```

```
var cars = ["Mazda", "BMW", "Ford", "Kia"];
```

Methods that return
a value based on the array

```
cars.includes("Ford"); // true
```

```
cars.indexOf("Ford"); // 2
```

```
cars.join(", "); // "Mazda, BMW, Ford..."
```

```
var cars = ["Mazda", "BMW", "Ford", "Kia", "Honda"];  
var carsNew = cars.slice(1, 3);
```

```
console.log(carsNew); // ["BMW", "Ford"]
```

Takes from **1** until **3** (not included)

```
var cars = ["Mazda", "BMW", "Ford", "Kia"];
```

Methods that modify the Actual Array

```
cars.shift(); // ["BMW", "Ford", "Kia"]
```

```
cars.pop(); // ["Mazda", "BMW", "Ford"]
```

```
cars.sort(); // ["BMW", "Ford", "Kia", "Mazda"]
```

```
cars.reverse(); // ["Kia", "Ford", "BMW", "Mazda"]
```



```
cars = ["Mazda", "BMW", "Ford", "Kia"];  
cars.push("Honda");  
  
//["Mazda", "BMW", "Ford", "Kia", "Honda"];
```

EXERCISE # 7

- ▶ **INPUT:** Five students.
- ▶ **OUTPUT :** List of students in alphabetical order with a comma and a space between each.

`push()`

`sort()`

`join()`

EXERCISE # 7

► קלט :

► חמישה תלמידים.

► פלט

► רשימת תלמידים בסדר אלפביתי עם פסיק ורווח בין כל אחד.

`push()`

`sort()`

`join()`