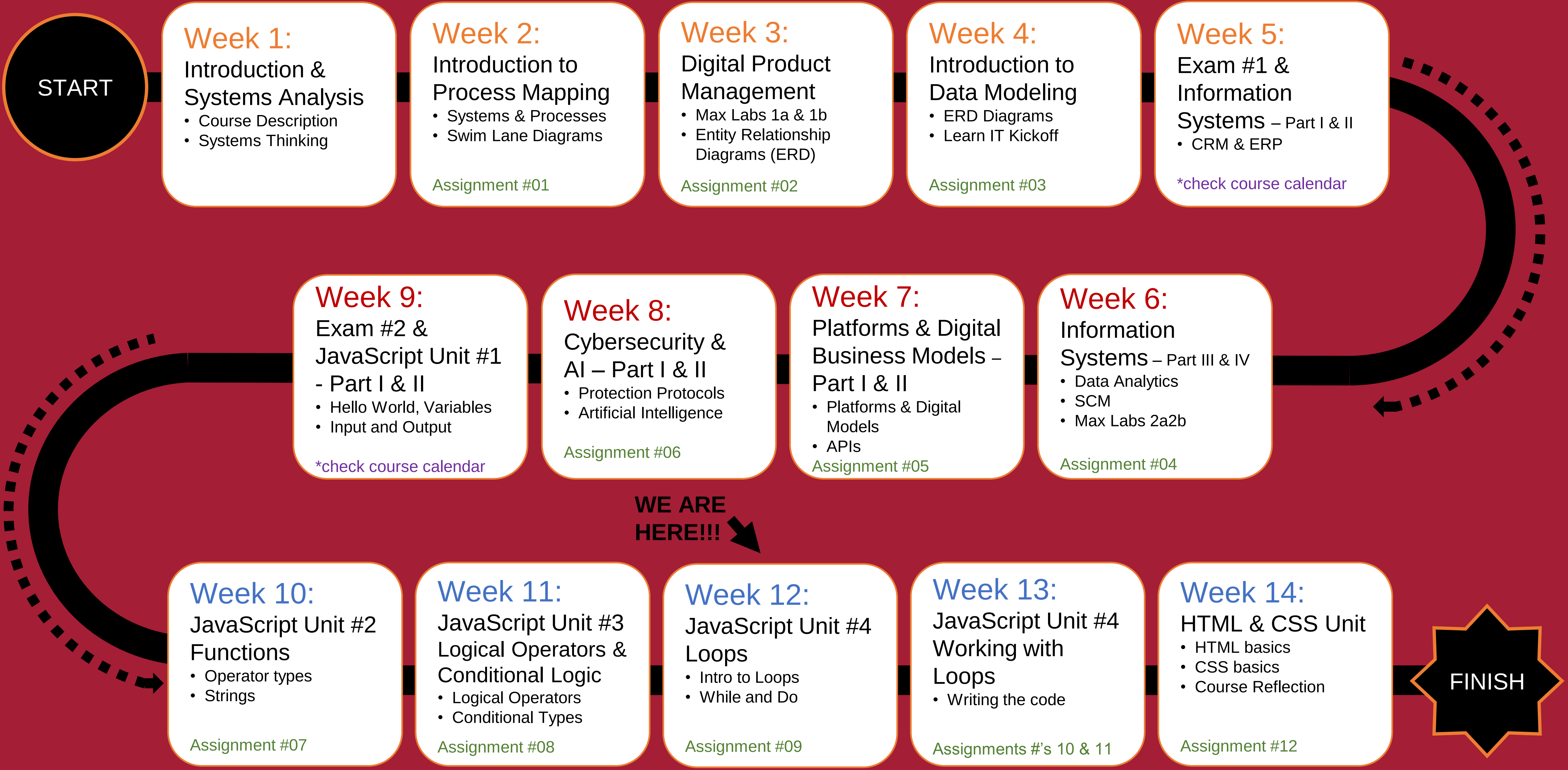
TEMPLE
UNIVERSITY

Information Systems in Organizations

12.1 Loops

FOX
MIS

ROADMAP



START

Week 1:
Introduction & Systems Analysis
- Course Description
- Systems Thinking

Week 2:
Introduction to Process Mapping
- Systems & Processes
- Swim Lane Diagrams

Assignment #01

Week 3:
Digital Product Management
- Max Labs 1a & 1b
- Entity Relationship Diagrams (ERD)

Assignment #02

Week 4:
Introduction to Data Modeling
- ERD Diagrams
- Learn IT Kickoff

Assignment #03

Week 5:
Exam #1 & Information Systems – Part I & II
- CRM & ERP

*check course calendar

Week 6:
Information Systems – Part III & IV
- Data Analytics
- SCM
- Max Labs 2a2b

Assignment #04

Week 7:
Platforms & Digital Business Models – Part I & II
- Platforms & Digital Models
- APIs

Assignment #05

Week 8:
Cybersecurity & AI – Part I & II
- Protection Protocols
- Artificial Intelligence

Assignment #06

Week 9:
Exam #2 & JavaScript Unit #1 - Part I & II
- Hello World, Variables
- Input and Output

*check course calendar

Week 10:
JavaScript Unit #2 Functions
- Operator types
- Strings

Assignment #07

Week 11:
JavaScript Unit #3 Logical Operators & Conditional Logic
- Logical Operators
- Conditional Types

Assignment #08

WE ARE HERE!!!

Week 12:
JavaScript Unit #4 Loops
- Intro to Loops
- While and Do

Assignment #09

Week 13:
JavaScript Unit #4 Working with Loops
- Writing the code

Assignments #'s 10 & 11

Week 14:
HTML & CSS Unit
- HTML basics
- CSS basics
- Course Reflection

Assignment #12

FINISH

TIPS FROM MIS 2101 VIRTUAL HELPDESK

Programming is Easy but Requires a Different Way of Thinking with Andrew Smuszkiewicz

TEMPLE UNIVERSITY

Loops

Week 12

FOX
MIS

- So, what if you wanted to say Hello World ten times?

Hello, World_

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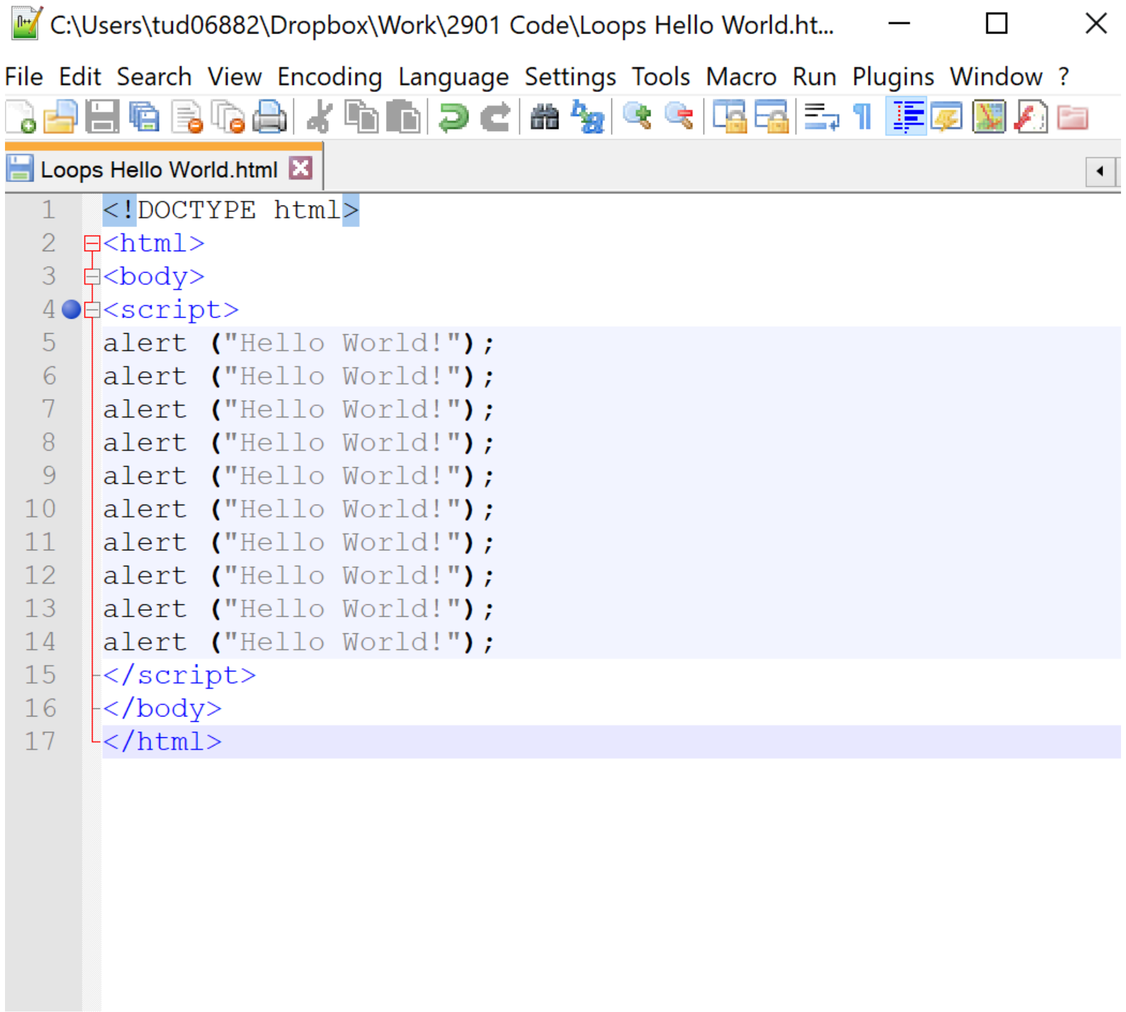
You could do this…



C:\Users\tud06882\Dropbox\Work\2901 Code\Loops Hello World.ht...
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
Loops Hello World.html

```
<!DOCTYPE html>
<html>
<body>
<script>
alert ("Hello World!");
alert ("Hello World!");
alert ("Hello World!");
alert ("Hello World!");
alert ("Hello World!");
alert ("Hello World!");
alert ("Hello World!");
alert ("Hello World!");
alert ("Hello World!");
alert ("Hello World!");
</script>
</body>
</html>
```

But wouldn’t this be easier?

```
for (var i = 0; i < 10; i++)
{
   alert("Hello World!");
}
```

Enter the loop…

- A sequence of instructions that is repeated until a certain condition is reached.
- An operation is done, such as getting an item of data and changing it, and then some condition is checked such as whether a counter has reached a prescribed number.

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You will often want to repeat some code many **MANY** times.

Don’t do this!

```
saySomething();

saySomething();

saySomething();

saySomething();

saySomething();

saySomething();

saySomething();

saySomething();
```

You will often want to repeat some code many **MANY** times.

A **loop** will help you out.

Meet the loops!

- There are three types of loops you can use to repeat some code:
  - **for** loop
  - **while** loop
  - **do...while** loop

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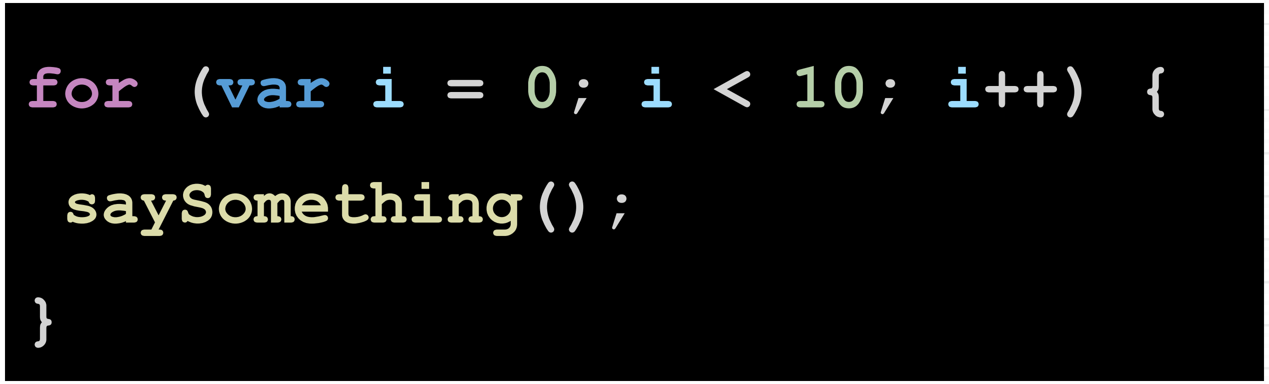
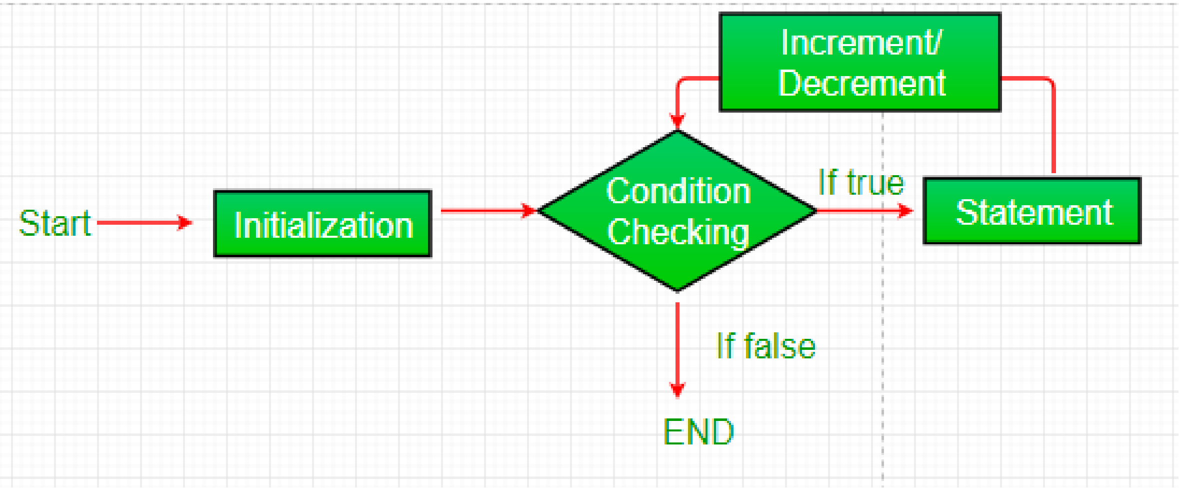
The `for` loop



```
for (var i = 0; i < 10; i++) {
 saySomething();
}
```



The **`for`** loop is all business. It requires you to define the looping conditions up front.

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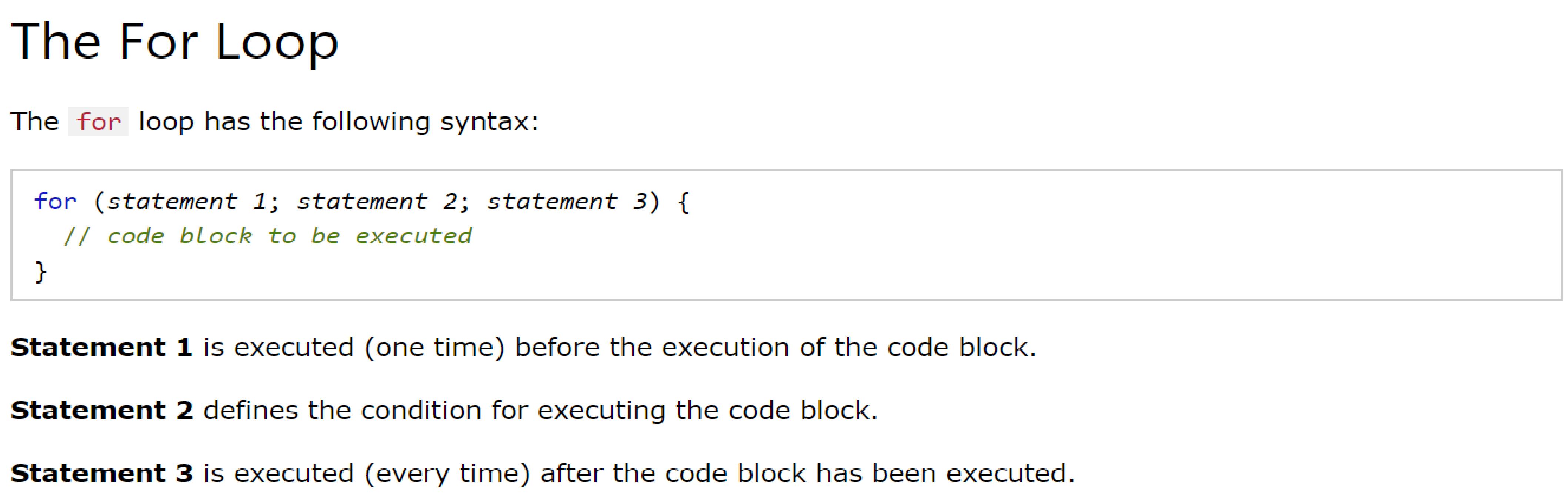


The For Loop

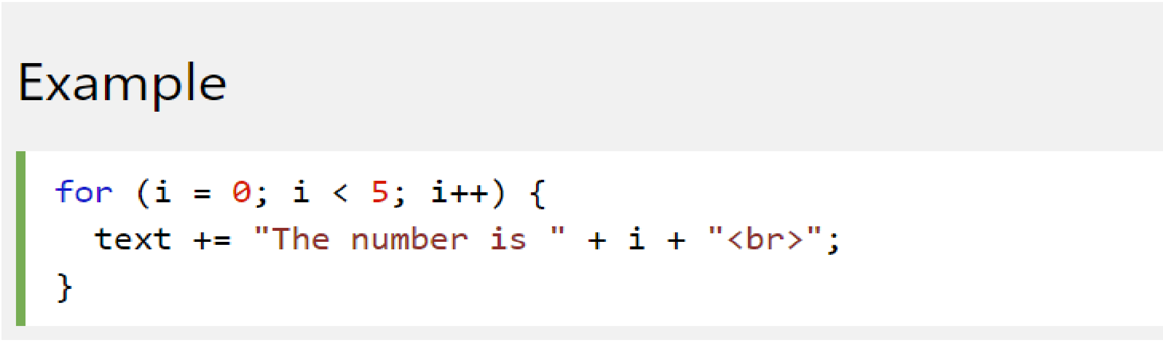
The `for` loop has the following syntax:

```
for (statement 1; statement 2; statement 3) {
  // code block to be executed
}
```

Statement 1 is executed (one time) before the execution of the code block.

Statement 2 defines the condition for executing the code block.

Statement 3 is executed (every time) after the code block has been executed.

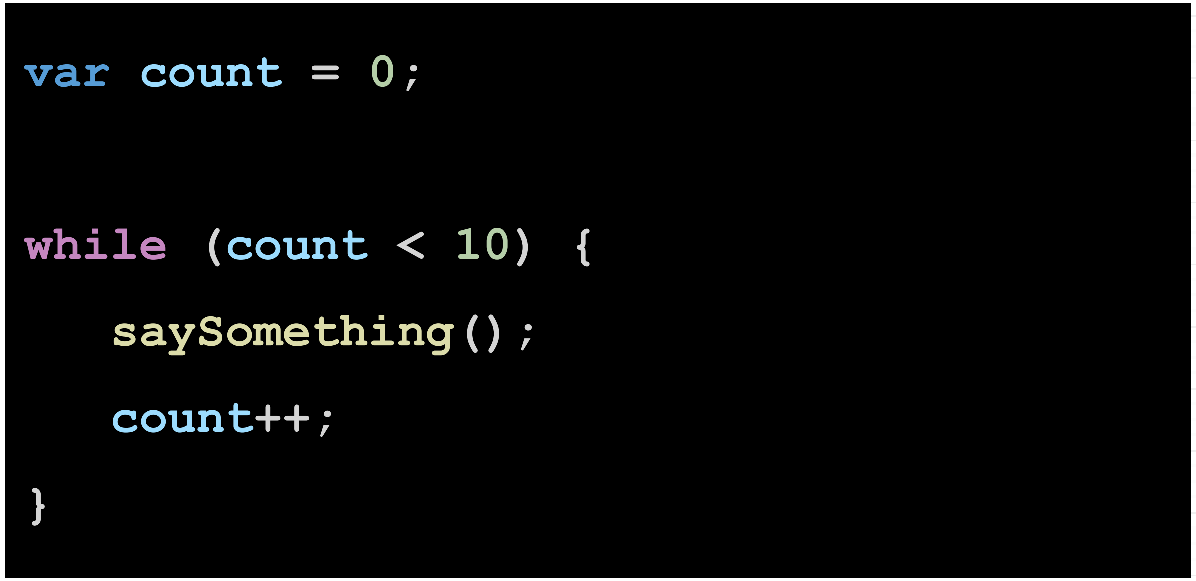


Example

```
for (i = 0; i < 5; i++) {
  text += "The number is " + i + "<br>";
}
```

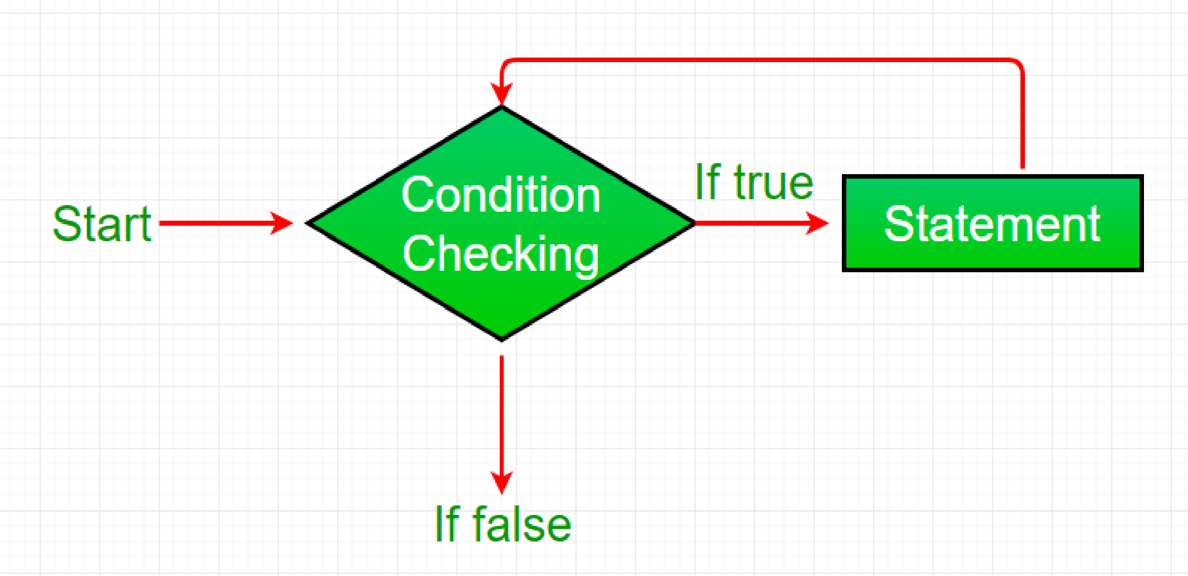
In English:
Statement 1 sets a variable before the loop starts (var i = 0).
Statement 2 defines the condition for the loop to run (i must be less than 5).
Statement 3 increases a value (i++) each time the code block in the loop has been executed.

The `while` loop



```
var count = 0;


while (count < 10) {
    saySomething();
    count++;
}
```



The **`while`** loop will run until its looping condition evaluates to being **false**.

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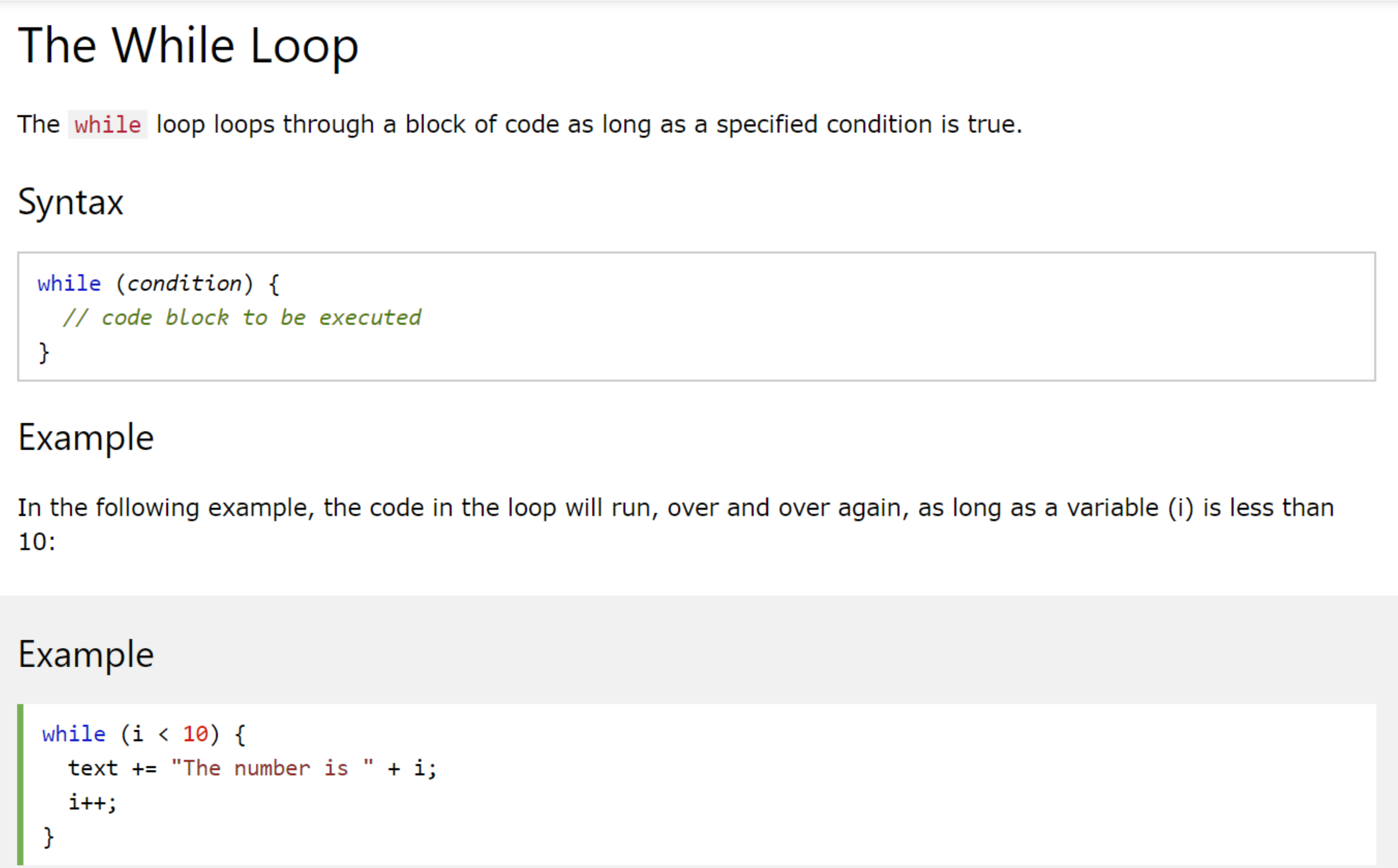


The While Loop

The `while` loop loops through a block of code as long as a specified condition is true.

Syntax

```
while (condition) {
  // code block to be executed
}
```

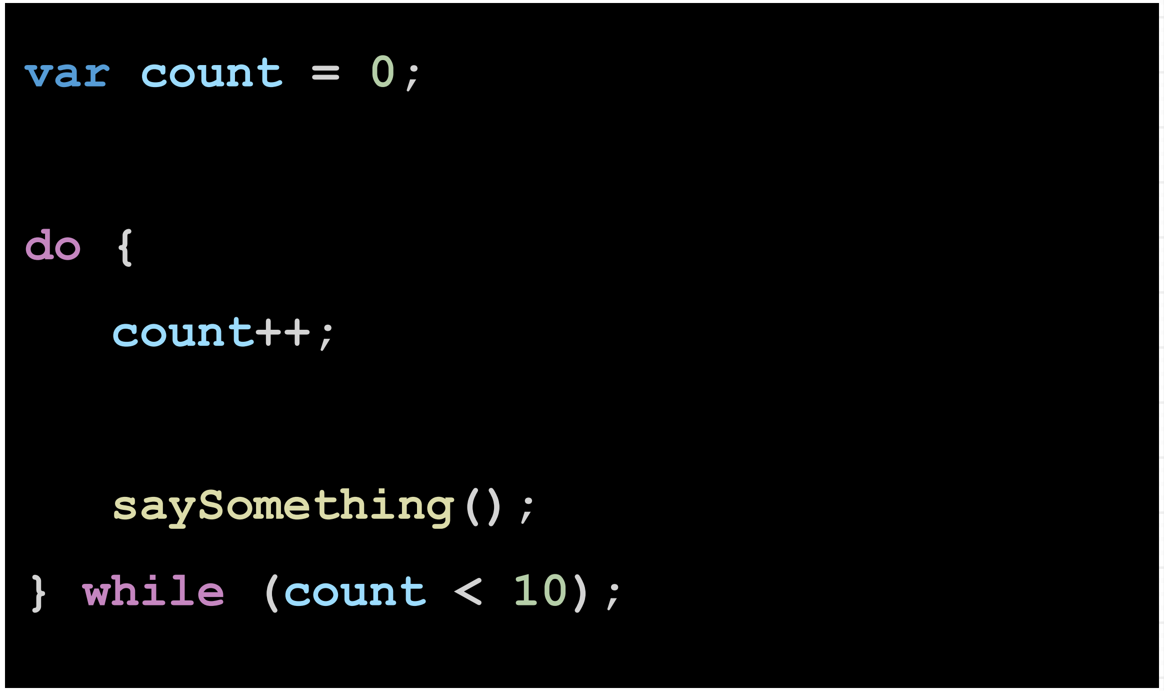
Example

In the following example, the code in the loop will run, over and over again, as long as a variable (i) is less than 10:

Example

```
while (i < 10) {
  text += "The number is " + i;
  i++;
}
```

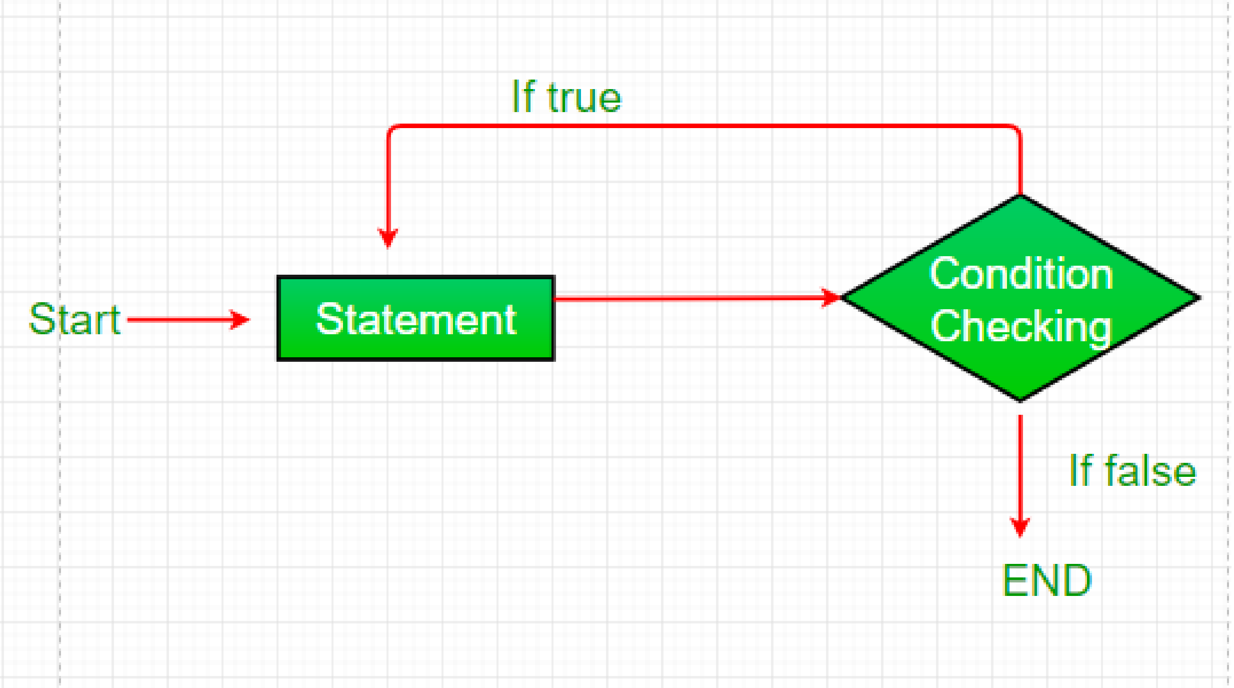
The `do...while` loop



```
var count = 0;


do {
   count++;


   saySomething();
} while (count < 10);
```



The **`do...while`** loop is similar to the **`while`** loop we looked at earlier, but its looping condition is specified at the end.

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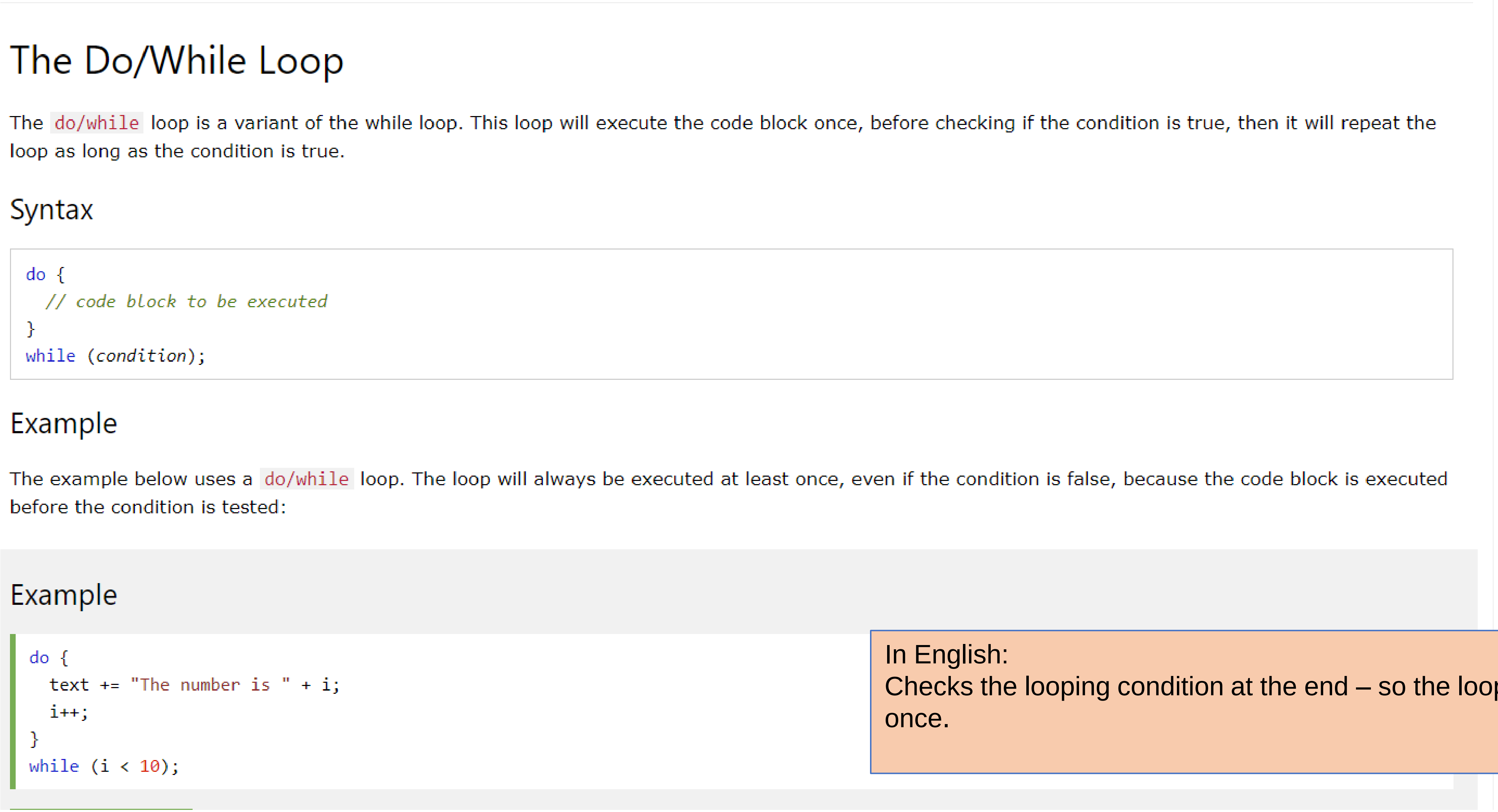

The Do/While Loop

The `do/while` loop is a variant of the while loop. This loop will execute the code block once, before checking if the condition is true, then it will repeat the loop as long as the condition is true.

Syntax

```
do {
  // code block to be executed
}
while (condition);
```

Example

The example below uses a `do/while` loop. The loop will always be executed at least once, even if the condition is false, because the code block is executed before the condition is tested:

Example

```
do {
  text += "The number is " + i;
  i++;
}
while (i < 10);
```

In English:
Checks the looping condition at the end – so the loop will run at least once.

Time for “Challenges”!

In-Class Challenges

- BugCollector
- CaloriesBurned
- BudgetAnalysis
- DistanceTraveled
- C2FTable
- GuessANumber

Homework Assignments

- PenniesForPay
- OceanLevels
- SumOfNumbers

Diamond Peer Teacher
Patrick Jurgelewicz

Bug Collector Coding Walkthrough

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Diamond Peer Teacher
Sean Boyer

Calories Burned Coding Walkthrough

FOX
MIS

More to Come

Prepare with Readings & Videos before our next class!!!