ST0523 Fundamentals of Programming

Topic 3b
Repetitions - *for* loop

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Topic 3b
Repetition – *for* loop

To use *for* loop statements to control the repetition of statements.

Repetitions

- Suppose we need to print “Welcome to FOP ” 100 times. One way is to use 100 console.log() statements.

```
console.log("Welcome to FOP ");
console.log("Welcome to FOP ");
console.log("Welcome to FOP ");
console.log("Welcome to FOP ");
...
console.log("Welcome to FOP ");
```

Repetitions

- A more efficient way is to make use of repetition/ looping/iteration structures.
  - for Loop
  - while Loop
  - do-while Loop

- We'll be focusing on **for** loop for this topic.

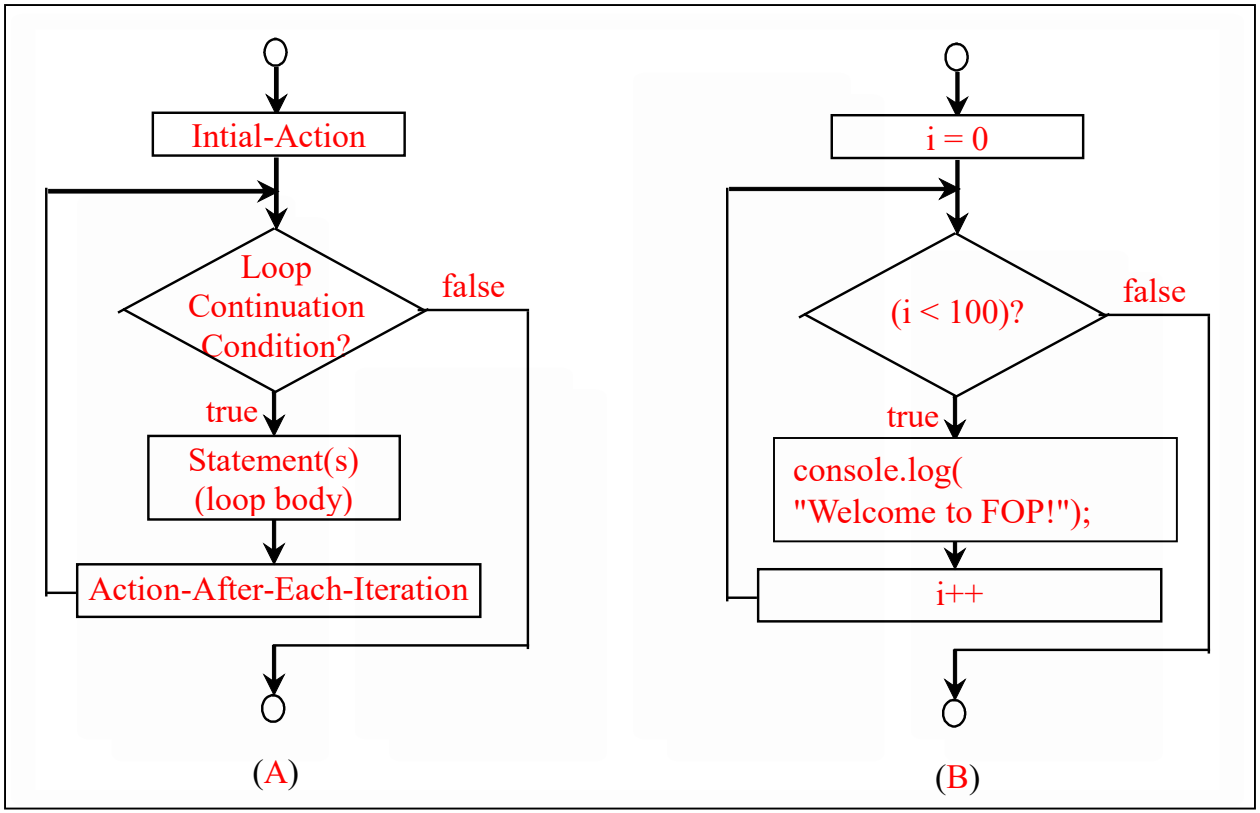
for Loops Syntax

```
for (initial-action; loop-continuation-condition; action-after-each-
    iteration) {
  // loop body;
  Statement(s);
}
```

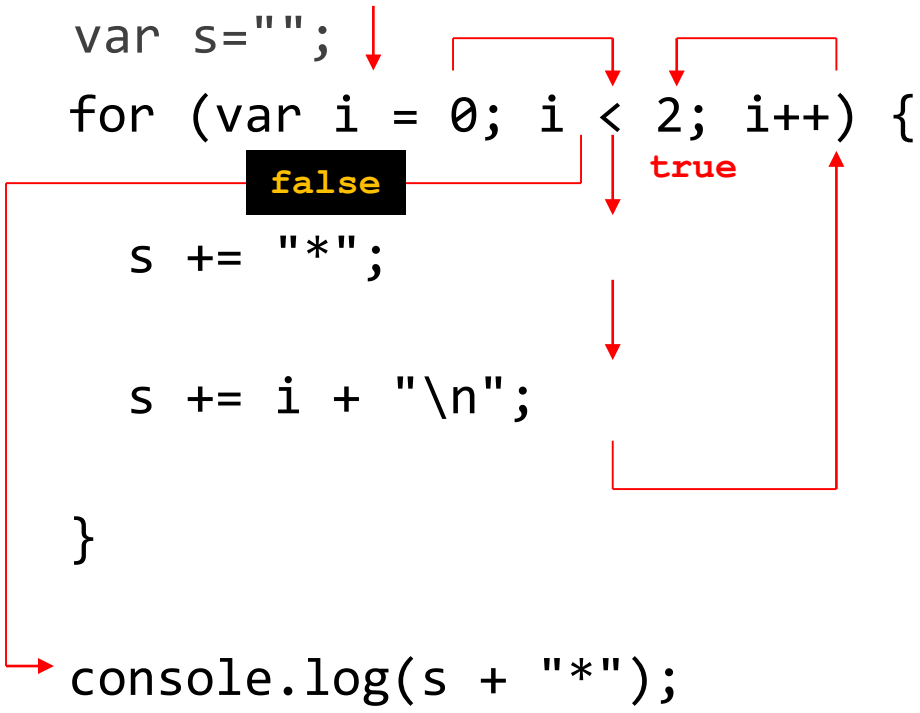
Example

```
for (var i = 0; i < 100; i++) {
    console.log("Welcome to FOP!");
}
```

Aided Flowchart



How **for** Loop Works



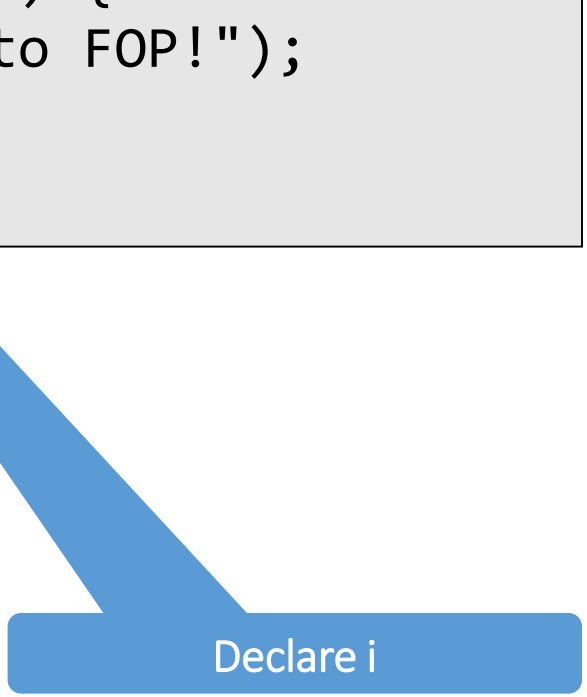

```
Output:

*0
*1
*
```

There are 3 expressions in a for statement: Initialization Expression, Boolean Expression and Increment Expression. These expressions are all optional.

for Loops Example

```
for (var i = 0; i < 2; i++) {
    console.log("Welcome to FOP!");
}
```



for Loops Example

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    console.log("Welcome to FOP!");
}
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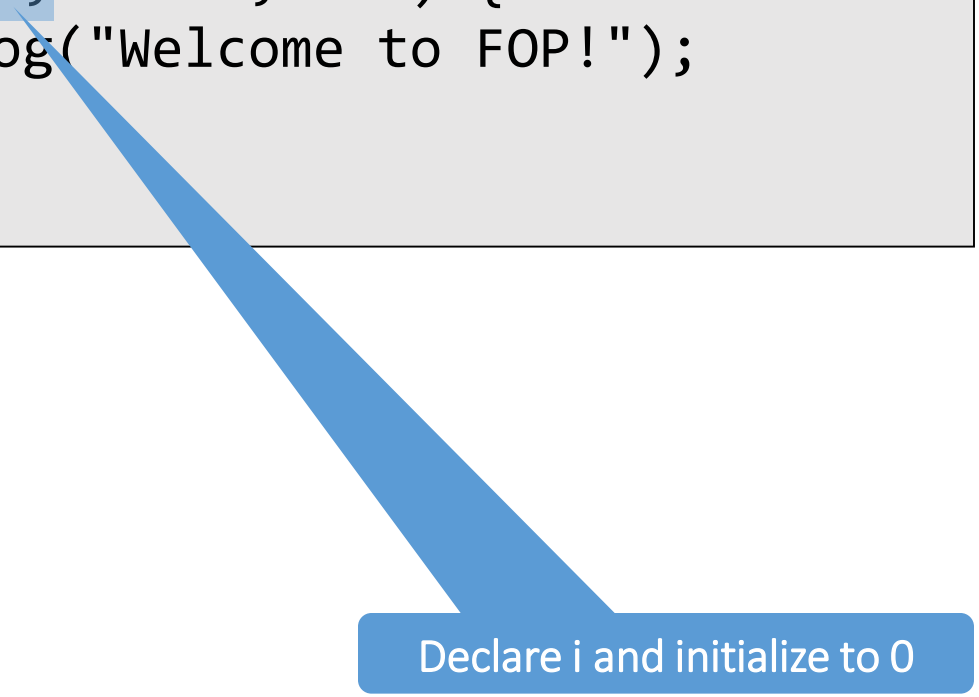

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    console.log("Welcome to FOP!");
}
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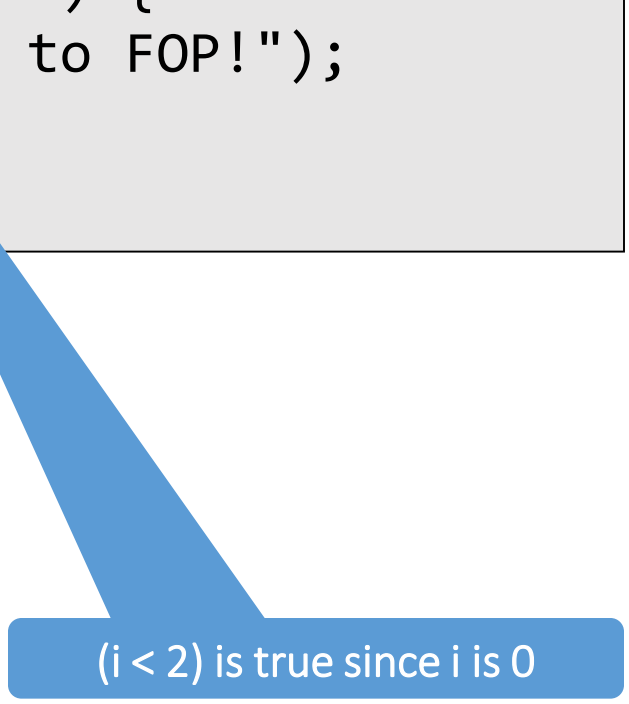

for Loops Example

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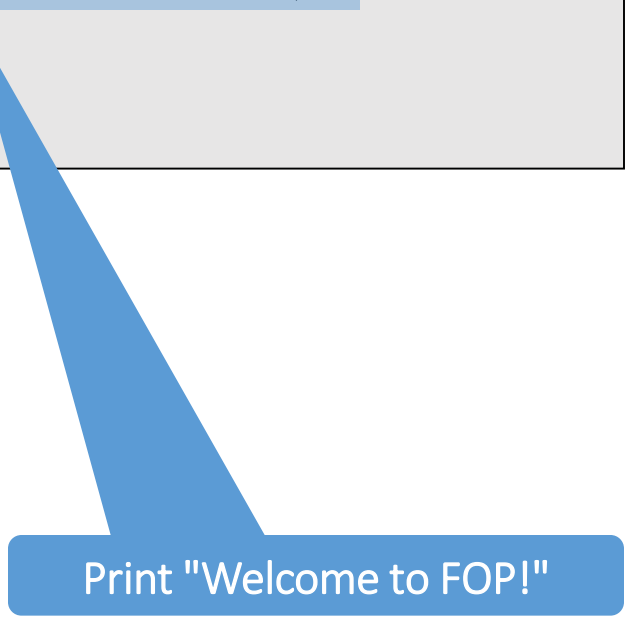

for Loops Example

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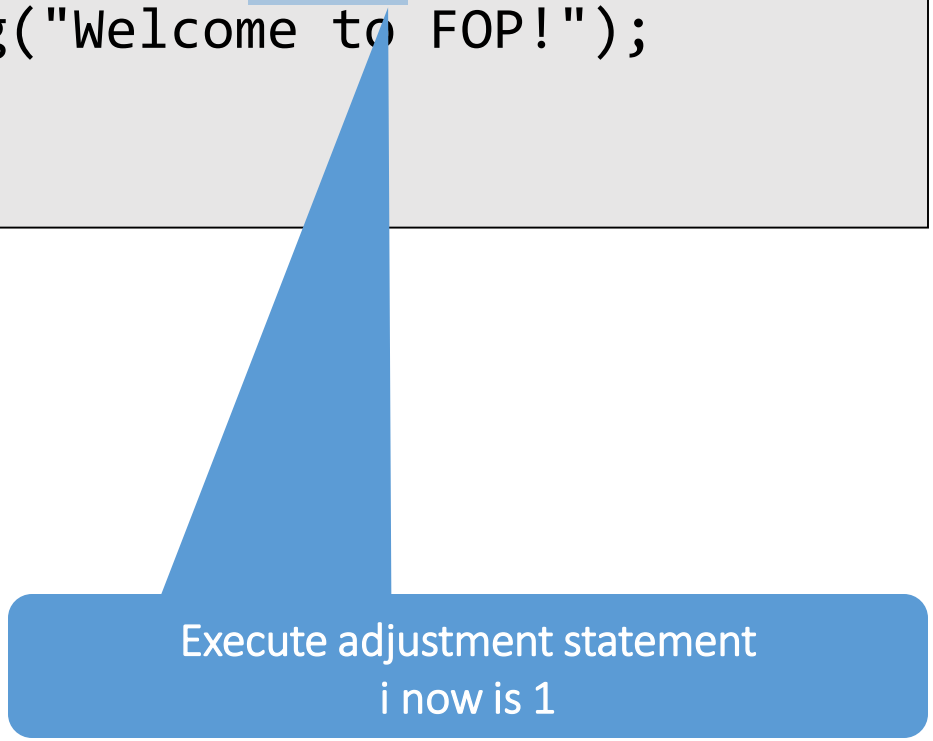
    console.log("Welcome to FOP!");
}
```



for Loops Example

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    console.log("Welcome to FOP!");
}
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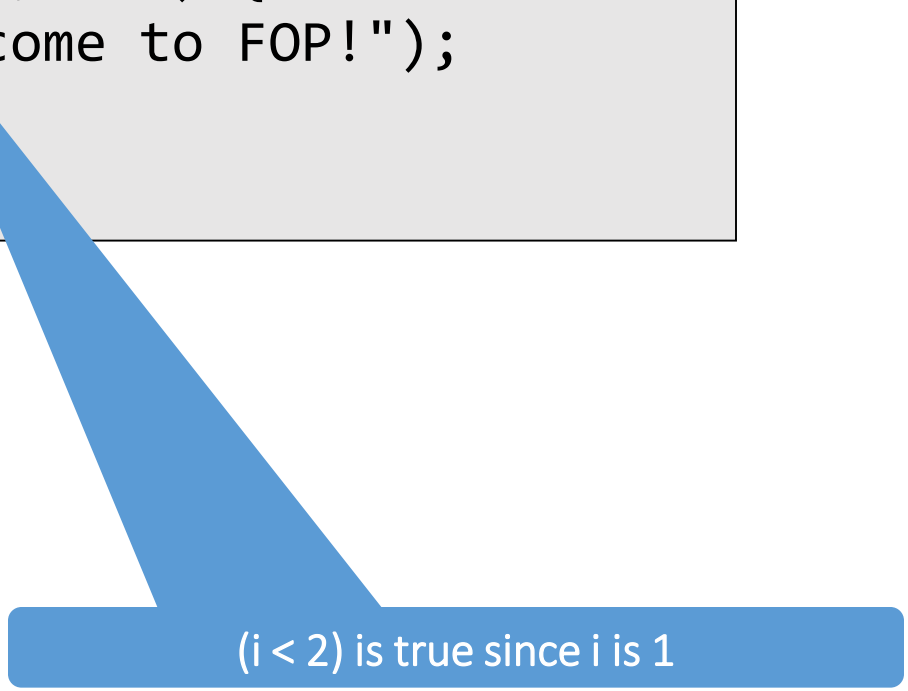

for Loops Example

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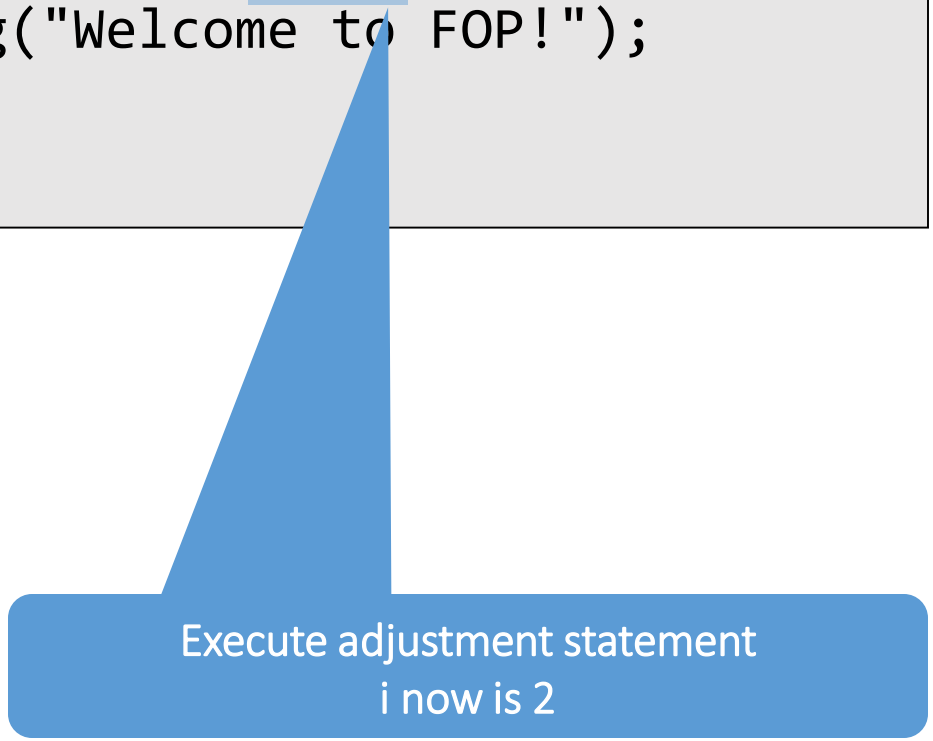

for Loops Example

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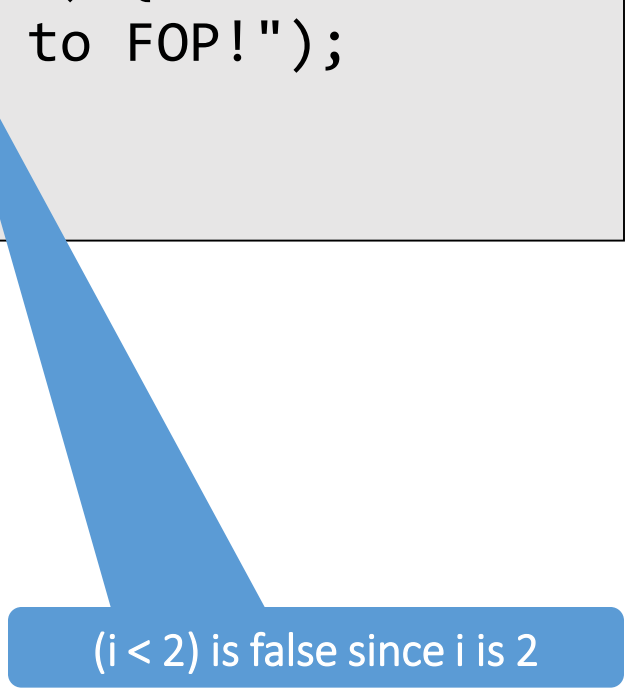

for Loops Example

```
for (var i = 0; i < 2; i++) {
    console.log("Welcome to FOP!");
}
```

Exit the loop. Execute the next statement after the loop

Class Exercise: **for** loop

- Review Question

  Write a for loop that prints the numbers from 1 to 100.

Caution!!

Adding a semicolon at the end of the for clause before the loop body is a common mistake, as shown below:

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

Logic Error

Summary on Topic 3b
Repetition – *for* loop

To use *for* loop statements to control the repetition of statements.

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