Flow of Control

Dynamic Execution

- Sometimes it is helpful to put decision points into your code
  - Add some variety to the program
  - React to good/bad user input
  - Avoid potential errors

Flow-of-control

- Break your program into blocks
- Efficient algorithms execute only the blocks needed
- The execution of these blocks is called ***flow of control***

Decision Points

- When we wrote the for loop earlier, we set up a decision point
  - End of array? Stop Summing
  - Not? Add the next number
- There are other methods for changing flow of control

if

- An if statement evaluates a boolean expression before performing an action
  - If expression is true, execute code
  - If expression is false, skip it

```
if (boolean-expression){
    steps to perform
}
```

Syntax and Logic of the if stmt

`if` is a reserved word

Must evaluate to either true or false.

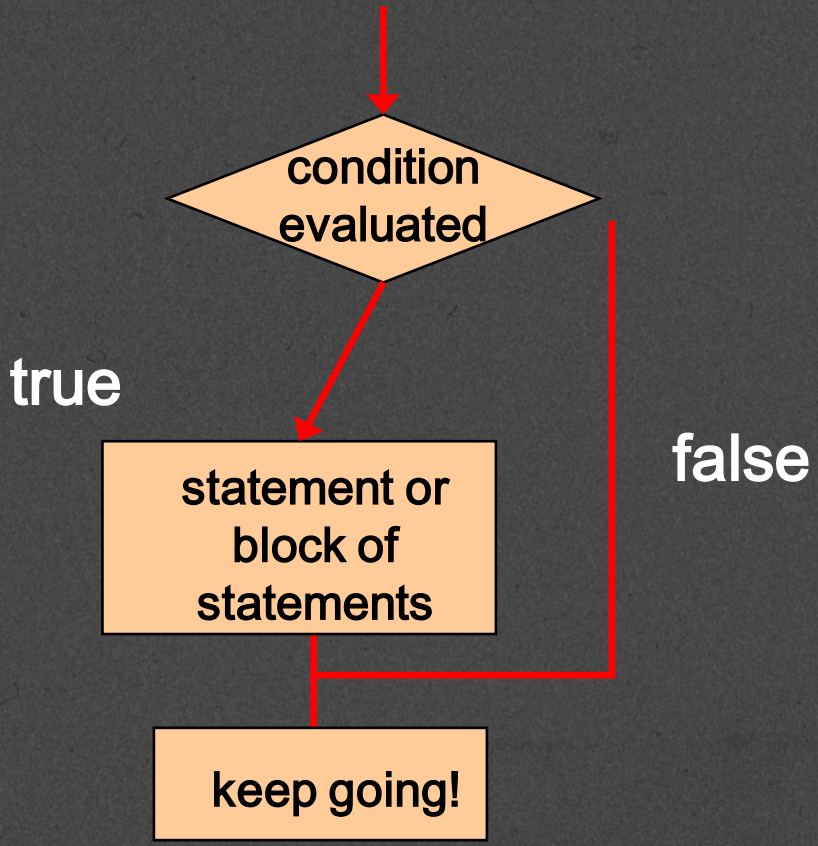
```
if ( boolean expression)
    statement;
```

If the *`condition`* is true, the *`statement(s)`* is executed.
If it is false, the *`statement`* is skipped.

Blocks

- In JavaScript, statements enclosed in curly brackets {…} are considered a single statement

- Indentation is not required, but it very important for readability


condition evaluated
true
false
statement or block of statements
keep going!

Example

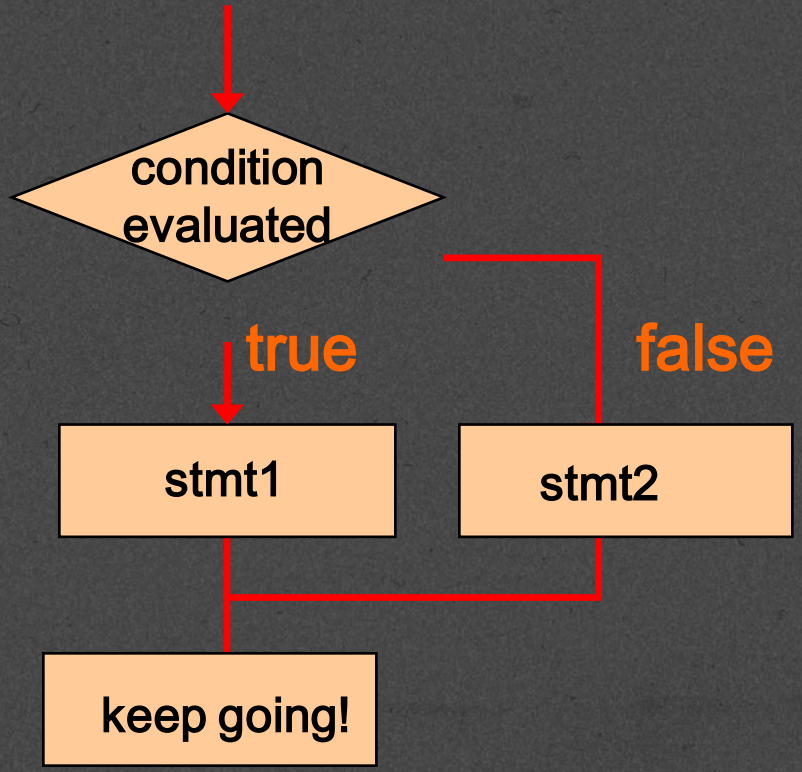
- JS – if with Name
- JS – Array Average With Zero

else statement

- An `else` can be added to an `if` statement to make an *if-else statement*

```
if (boolean)
    stmt1;
else
    stmt2;
```

- If the *condition* is true, *stmt1* is executed
- if the condition is false, *stmt2* is executed
- One or the other will be executed, **but not both**


condition
evaluated
true
false
stmt1
stmt2
keep going!

Example

- JS – if with Name
- JS – Array Average With Zero

Review

- Use **if** to specify a block of code to be executed, if a specified condition is true
- Use else to specify a block of code to be executed, if the same condition is false

Acknowledgements/Contributions

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