If Statement

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Synopsis

Foundation of all logic base programming. It allows a coder to test conditions for the flow of the program.

Why

Coder will use this statement alot in coding. The if statement is the key piece of equipment in the coder's toolbox.

Imagine if you want to test whether something passes a certian conidition or if something is doesn't.

Syntax

Starts with the keyword "if" followed by parenthesis "()" then curly braces {}

If statement is code that we call block leve code meaning the if statement takes up more then one line of code.

When we declared variables that happen in one line so the computer just reads one line but with block level code the computer will run the code inside the {}

Inside the parenthesis, the coder will put the condition that he/she wants to test and base on the whether that condition is true or false it will excute the code inside the curly braces

I.E

```
1  if (5 == 5) {
2
3    console.log("They are equal");
4
5  } // End of If Statement
6
7  if (1 > 5) {
8
9    // This code will not run because the condition is not true
10   console.log("True. 1 is greater then 5");
11
12 } // End of If Statement
```

Advanced

The conditions does not have to just integers but can be variables like

```
1  var number = 5;
2
3  if (number == 5) {
4
5    console.log("The variable number is equal to five");
6
7  } // End of If Statement
8
9  var test = 6;
10
11 if (number == test){
12
13   // This code will not run
14   console.log("Variable number and test are equal");
15
16 } // End of If Statement
```

The default of an If statement is true but a coder can change the default to false by using a "!"
So the code inside the parenthesis has to be false for the code inside the curly braces to run

```
1  if (5 != 5) {
2
3    console.log("They are not equal");
```

```
4
5  } // End of If Statement
```

A coder can test multiple conditions in the parenthesis but using the && or ||

&& means "and" so the conditions have to be true

|| means "or" so one of the conditions have to be true

```
1
2  var number = 5;
3
4  if (number == 5 && number > 1) {
5
6    console.log("The number is equal to 5 and it is greater
          than 5");
7
8  } // End of If Statement
9
10
11 if (number == 5 || number > 1) {
12
13    console.log("The number is equal to 5 or it is greater than
          5");
14
15 } // End of If Statement
```

Examples

```
1
2
3  // ---------------- Example 1 ------------------
4
5  var hungry = true;
6
7  if (hungry == true) {
8
9    console.log("Let's go eat");
10
11 } // End of If Statement
12
13
14
15 // ---------------- Example 2 ------------------
```

```javascript
16
17  // Since the if statement default is true,
18  // a coder can write this
19
20  if (hungry) {
21
22      console.log("Let's go eat");
23
24  } // End of If Statement
25
26
27
28  // ---------------- Example 3 -----------------
29
30  // Also a coder can do this
31
32  var hungry = false;
33
34  if (!hungry) {
35
36      console.log("I am full");
37
38  } // End of If Statement
39
40
41
42  // ---------------- Example 4 -----------------
43
44  var num = [1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10];
45
46  for (var i = 0 ; i < 9 ; i++) {
47
48      if (num[i] == 5) {
49
50          console.log("5 is in the array of num");
51
52      }
53
54  } // End of For Loop I
```