

If Statement

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Synopsis

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

Why

Coders will use this statement a lot in coding. The if statement is the key piece of equipment in the coder's toolbox. Think about wanting to test whether something passes a certain condition or if it doesn't.

Syntax

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

If statement is code that we call block level code meaning the if statement takes up more than one line of code. When we declared variables in the past, the computer just read and executed that one line. However, with block level code the computer will read the entire code inside the curly braces {}

Inside the parentheses, programmers put the condition that they want to test. Then, based on whether that condition is true or false, the code inside the curly braces is executed or bypassed.

E.G.

```

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

```

Notice the “==”. A programmer will use the double equals to ask the computer if variable or condition is true.

Advanced

The conditions being tested do not have to just be integers, but instead 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 “!” (not). In this manner, the code inside the parentheses

then has to be false for the code inside the curly braces to run.

```
1 if !(6 == 5) {  
2  
3     console.log("They are not equal");  
4  
5 } // End of If Statement
```

A coder can test multiple conditions in the parenthesis by using the && or ||. && means “and” so both conditions have to be true for the test to evaluate as true. || means “or” so one (or both) of the conditions have to be true for the test to evaluate as 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  
7         than 5");  
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 less 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 -----
16
17 // Since the if statement default is true,
18 // a coder can write this
19
20 if (hungry) {
21     console.log("Let's go eat");
22 } // End of If Statement
23
24
25
26
27
28 // ----- Example 3 -----
29
30 // Also a coder can do this
31
32 var hungry = false;
33
34 if (!hungry) {
35     console.log("I am full");
36 } // End of If Statement
37
38
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     if (num[i] == 5) {
48         console.log("5 is in the array of num");
49     }
50 } // End of For Loop I

```