Conditional Statements

Conditional Statements

- Conditional statements are used to decide the flow of execution based on different conditions. If a condition is true, you can perform one action and if the condition is false, you can perform another action.
- Through Conditional Statements, we can control which code needs to run or which code will not run.
- Code runs based on certain conditions.
    - For Ex: let's understand with the analogy, the traffic light controls the flow of vehicles on the road. Depending upon the colour of light, the actions happened. If light is green , then it is asignal to move whereas if the light is red then it is a signal to move.
- Based on the comparision , if the comparison is true then it will execute the one block of code otherwise another block of code.

Different Types of Conditional Statements

There are mainly three types of conditional statements in JavaScript.

1. If statement
2. If…Else statement
3. If…Else If…Else statement

if Statement

- It is to specify a block of JavaScript code to be executed if a condition is true.

Syntax

condition

block of code to be executed if the condition is true

- **if()**
  - It takes a Boolean Value or the expression that will give boolean value.
- if() { }
  - { } knows as code block.

a) If with Boolean Value

```
console.log("Code Start")
        if(true) {
          console.log("Inside Code")
        }
console.log("Code End")
```

b) If with Expression

- The decision is based on the value of Expression

For Example :

```
if(5>3){
       console.log("Inside Code");
  }
```

c) If with Variables

- The decision is based on the value of Expression

For Example :

```
var name1 = "rahul";
```

```
var name2 = "rahul";
var check = (name1==name2);

if(check){
   console.log("Both Names are same");
}
```

Code 1 : Check Whether two numbers are equal

```
var a = 2;
var b = 3;
var c = (a==b);

if(c)
{
    console.log("a and b are equal");
}
```

if/else Statement

- The `if...else` is a type of conditional statement that will execute a block of code when the condition in the `if` statement is `truthy`. If the condition is `falsy`, then the `else` the block will be executed.
- Here is a list of `falsy` values:
  - false
  - 0 (zero)
  - 0 (negative zero)
  - 0n (BigInt zero)
  - `""`, `''`, ``` `` ``` (empty string)
  - null
  - undefined
  - NaN (not a number)
- If the condition is true, then one block of code executes.

- Else another block of code executes.

Syntax

condition

block of code to be executed if the condition is true

block of code to be executed if the condition is false

Code 2 : Check which number is greater

```
var a = 3;
var b = 20;

if(a>b)
{
  console.log("a is greater");
}
else
{
  console.log("a is not greater");
}
```

Code 3 : Check Whether two names are equal or not

```
var name1 = "suraj";
var name2 = "suraj";

if(name1==name2)
{
  console.log("Names are Equal");
}
else
{
  console.log("Names are not equal");
}
```

Hotel Bill Discount

Code 4 :

Given total_bill, discount_start_price if you satisfy the condition Print Discount Availaible Otherwise print No Discount

```
var total_bill = 699;
var discount_start_price = 500;

if(total_bill>=discount_start_price){
  console.log("Discount Availaible");
}
else{
  console.log("No discount");
}
```

Else-if Statement

- There will be times where you want to test multiple conditions. That is where the `else if` the block comes in.
- When the `if` statement is `false`, the computer will move onto the `else if` statement. If that is also `false`, then it will move onto the `else` block.

Syntax

condition1

block of code to be executed if condition1 is true

condition2

block of code to be executed if the condition1 is false and condition2 is true

block of code to be executed if the condition1 is false and condition2 is false

Bill and Discount

Problem Statement: According to the total_bill, the discount will be applied.

Aa Total Bill	Discount Applied

Aa Total Bill	Discount Applied
Greater Than 500	10%
Greater Than 1000	20%
Others	No Discount

Code 5 : For a Restaurant, write the program for the following total_bill > 500 Then print 10% discount total_bill > 1000 Then print 20% discount Otherise No discount

```
var total_bill = 799;

if(total_bill > 1000)
{
  console.log("20 % discount");
}
else if(total_bill > 500)
{
  console.log("10 % discount");
}
else
{
  console.log("No discount");
}
```

If-Else-If vs if-if-if :

Code 6 : If-Else-If

- ***My mother told me to get any one of the thing from the market**

1. **If Rice is availaible then print Buy rice**
2. **Else If wheat is availaible then print buy wheat**
3. **Else If apple is availaible then print buy apple****

```
var rice_availaible = false ;
var wheat_availaible = true;
var apple_availaible = true;

if(rice_availaible)
{
```

```
  console.log("Buy rice");
}
else if(wheat_availaible)
{
  console.log("Buy Wheat");
}
else if(apple_availaible)
{
  console.log("Buy apple");
}
else
{
  console.log("Nothing is availaible");
}
```

Code 7 : If - If - If

- ***My mother told me to get all of the thing if available from the market**

1. **If Rice is available then print Buy rice**
2. **If wheat is availaible then print buy wheat**
3. **If apple is availaible then print buy apple****

```
var rice_availaible = true ;
var wheat_availaible = true;
var apple_availaible = false;

if(rice_availaible)
{
  console.log("Buy rice");
}

if(wheat_availaible)
{
  console.log("Buy Wheat");
}

if(apple_availaible)
{
  console.log("Buy apple");
}
```

Code 8 : Solve the Marriage Problem

Legal Age in India Males ----> 21

Females ----> 18

```
var gender = "female";
var age = 21;

if(gender == "male")
{

  if(age>=21)
  {
    console.log("Males : get marry");
  }
  else
  {
    console.log("Males : Can't get marry");
  }

}

else
{
  if(age>=18){
    console.log("Females : get marry");
  }
  else{
    console.log("Females : Can't get marry");
  }
}
```

Code 9 : Given a char , you need to print whether the char is a vowel or not vowels : a, e, i, o, u

```
var char = "z"

if(char == "a")
{
  console.log("vowel");
}
else if(char == "e")
{
  console.log("vowel");
}
else if(char == "i")
```

```
{
  console.log("vowel");
}
else if(char == "o")
{
  console.log("vowel");
}
else if(char == "u")
{
  console.log("vowel");
}
else{
  console.log("Not a vowel");
}
```

Not Operator

- On applying to a boolean value, the *not* operator turns *true* to *false* and *false* to *true*.