30 Days Of JavaScript: Conditionals

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Thirty Days Of JavaScript

🧮 Day 4

Conditionals

Conditional statements are used for make decisions based on different conditions. By default , statements in JavaScript script executed sequentially from top to bottom. If the processing logic require so, the sequential flow of execution can be altered in two ways:

- Conditional execution: a block of one or more statements will be executed if a certain expression is true
- Repetitive execution: a block of one or more statements will be repetitively executed as long as a certain expression is true. In this section, we will cover *if*, *else* , *else if* statements. The comparison and logical operators we learned in the previous sections will be useful in here.

Conditions can be implementing using the following ways:

- if
- if else

- if else if else
- switch
- ternary operator

If

In JavaScript and other programming languages the key word *if* is to used check if a condition is true and to execute the block code. To create an if condition, we need *if* keyword, condition inside a parenthesis and block of code inside a curly bracket({}).

```
// syntax
if (condition) {
  //this part of code runs for truthy condition
}
```

Example:

```
let num = 3
if (num > 0) {
  console.log(`${num} is a positive number`)
}
//  3 is a positive number
```

As you can see in the condition example above, 3 is greater than 0, so it is a positive number. The condition was true and the block of code was executed. However, if the condition is false, we won't see any results.

```
let isRaining = true
if (isRaining) {
  console.log('Remember to take your rain coat.')
}
```

The same goes for the second condition, if isRaining is false the if block will not be executed and we do not see any output. In order to see the result of a falsy condition, we should have another block, which is going to be *else*.

If Else

If condition is true the first block will be executed, if not the else condition will be executed.

```
// syntax
if (condition) {
  // this part of code runs for truthy condition
} else {
  // this part of code runs for false condition
}
```

```
let num = 3
if (num > 0) {
  console.log(`${num} is a positive number`)
} else {
  console.log(`${num} is a negative number`)
}
//  3 is a positive number

num = -3
if (num > 0) {
  console.log(`${num} is a positive number`)
} else {
  console.log(`${num} is a negative number`)
}
//  -3 is a negative number
```

```
let isRaining = true
if (isRaining) {
  console.log('You need a rain coat.')
} else {
  console.log('No need for a rain coat.')
}
// You need a rain coat.

isRaining = false
if (isRaining) {
  console.log('You need a rain coat.')
} else {
  console.log('No need for a rain coat.')
}
// No need for a rain coat.
```

The last condition is false, therefore the else block was executed. What if we have more than two conditions? In that case, we would use *else if* conditions.

If Else if Else

On our daily life, we make decisions on daily basis. We make decisions not by checking one or two conditions instead we make decisions based on multiple conditions. As similar to our daily life, programming is also full of conditions. We use *else if* when we have multiple conditions.

```
// syntax
if (condition) {
     // code
} else if (condition) {
   // code
} else {
    //  code

}
```

Example:

```
let a = 0
if (a > 0) {
  console.log(`${a} is a positive number`)
} else if (a < 0) {
  console.log(`${a} is a negative number`)
} else if (a == 0) {
  console.log(`${a} is zero`)
} else {
  console.log(`${a} is not a number`)
}
```

```
// if else if else
let weather = 'sunny'
if (weather === 'rainy') {
  console.log('You need a rain coat.')
} else if (weather === 'cloudy') {
  console.log('It might be cold, you need a jacket.')
} else if (weather === 'sunny') {
  console.log('Go out freely.')
} else {
  console.log('No need for rain coat.')
}
```

Switch

Switch is an alternative for **if else if else else**. The switch statement starts with a *switch* keyword followed by a parenthesis and code block. Inside the code block we will have different cases. Case block runs if the value in the switch statement parenthesis matches with the case value. The break statement is to terminate execution so the code execution does not go down after the condition is satisfied. The default block runs if all the cases don't satisfy the condition.

```
switch(caseValue){
  case 1:
    // code
    break
  case 2:
   // code
   break
  case 3:
   // code
   break
  default:
   // code
}
```

```js
let weather = 'cloudy'
switch (weather) {
  case 'rainy':
    console.log('You need a rain coat.')
    break
  case 'cloudy':
    console.log('It might be cold, you need a jacket.')
    break
  case 'sunny':
    console.log('Go out freely.')
    break
  default:
    console.log(' No need for rain coat.')
}

// Switch More Examples
let dayUserInput = prompt('What day is today ?')
let day = dayUserInput.toLowerCase()

switch (day) {
  case 'monday':
    console.log('Today is Monday')
    break
  case 'tuesday':
    console.log('Today is Tuesday')
    break
  case 'wednesday':
    console.log('Today is Wednesday')
    break
  case 'thursday':
    console.log('Today is Thursday')
    break
  case 'friday':
    console.log('Today is Friday')
    break
  case 'saturday':
    console.log('Today is Saturday')
    break
  case 'sunday':
    console.log('Today is Sunday')
    break
  default:
    console.log('It is not a week day.')
}
```

// Examples to use conditions in the cases

```
let num = prompt('Enter number');
switch (true) {
  case num > 0:
    console.log('Number is positive');
    break;
  case num == 0:
    console.log('Numbers is zero');
    break;
  case num < 0:
    console.log('Number is negative');
    break;
  default:
    console.log('Entered value was not a number');
}
```

Ternary Operators

Another way to write conditionals is using ternary operators. We have covered this in other sections, but we should also mention it here.

```
let isRaining = true
isRaining
  ? console.log('You need a rain coat.')
  : console.log('No need for a rain coat.')
```

🌕 You are extraordinary and you have a remarkable potential. You have just completed day 4 challenges and you are four steps ahead to your way to greatness. Now do some exercises for your brain and muscle.

💻 Exercises

Exercises: Level 1

1. Get user input using prompt(“Enter your age:”). If user is 18 or older , give feedback:'You are old enough to drive' but if not 18 give another feedback stating to wait for the number of years he needs to turn 18.

   ```
   Enter your age: 30
   You are old enough to drive.
   ```

```
Enter your age:15
You are left with 3 years to drive.
```

2. Compare the values of myAge and yourAge using if … else. Based on the comparison and log the result to console stating who is older (me or you). Use prompt(“Enter your age:”) to get the age as input.

   ```
   Enter your age: 30
   You are 5 years older than me.
   ```

3. If a is greater than b return 'a is greater than b' else 'a is less than b'. Try to implement it in to ways

   - using if else
   - ternary operator.

     ```js
     let a = 4
     let b = 3
     ```

     ```
     4 is greater than 3
     ```

4. Even numbers are divisible by 2 and the remainder is zero. How do you check, if a number is even or not using JavaScript?

   ```
   Enter a number: 2
   2 is an even number

   Enter a number: 9
   9 is is an odd number.
   ```

Exercises: Level 2

1. Write a code which can give grades to students according to theirs scores:
   - 80-100, A
   - 70-89, B
   - 60-69, C
   - 50-59, D
   - 0-49, F
2. Check if the season is Autumn, Winter, Spring or Summer. If the user input is :
   - September, October or November, the season is Autumn.
   - December, January or February, the season is Winter.
   - March, April or May, the season is Spring

  - June, July or August, the season is Summer

3. Check if a day is weekend day or a working day. Your script will take day as an input.

```
What is the day  today? Saturday
Saturday is a weekend.

What is the day today? saturDaY
Saturday is a weekend.

What is the day today? Friday
Friday is a working day.

What is the day today? FrIDAy
Friday is a working day.
```

Exercises: Level 3

1. Write a program which tells the number of days in a month.

```
Enter a month: January
January has 31 days.

Enter a month: JANUARY
January has 31 day

Enter a month: February
February has 28 days.

Enter a month: FEbruary
February has 28 days.
```

1. Write a program which tells the number of days in a month, now consider leap year.

🎉 CONGRATULATIONS ! 🎉

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