CodeWithHarry

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Regular Expressions - Metacharacters in JavaScript | JavaScript Tutorial In Hindi #47

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Regular Expressions - Metacharacters in JavaScript | JavaScript Tutorial In Hindi #47

In the previous tutorial, we studied about the regular expression and it's methods. If you have not watch the tutorial on basics of regular expression, check ***tutorial#46***. In today's tutorial, we explore **metacharacters in JavaScript**. This tutorial gets us up to speed quickly with regular expressions.

As we know, Regular expressions are the patterns that is used to match character combinations in strings. *Regular Expression*, or *regex* in short, is extremely and amazingly powerful in searching and manipulating text strings. Regex is supported in all the scripting languages (such as Python, PHP, and JavaScript); as well as general purpose programming languages such as Java. Getting started with regex may not be easy due to its confusing syntax, but it is certainly worth the investment of our time.

Metacharacters in Regular Expressions:-

Metacharacters are the building blocks of regular expressions. Characters in Regular expression are understood to be either a metacharacter with a special meaning or a regular character with a literal meaning. Following are some common metacharacters in regukar expressions.

Character	Explanation	Example
.	This metacharacter allows any character	matches any character
+	This character allows one or more preceding term	/ah+x/ matches ""ahx" or "ahhhhhhx"
*****	This character allows zero or more preceding term	/ah*x/ matches "aax", "ahx", or "ahhhhx"
?	This character allows zero or one preceding term	/ah?x/ matches "aax" and "ahx" but not "ahhx"

Character	Explanation	Example
\\.	This character allows a period(.) in the text	/etc\\./ matches "etc."
\\/	This character allows forward slash in the text.	/.+\\/.+/ matches "home/my"
\*	This character allows asterik in the text.	/my\*name/ matches "my*name"
\\+	This character allows Plus sign in the text.	/.+ \\+ .+/ matches "five + four"
\\?	This character allows question mark in the text.	/.+\\?/ matches "really?"
^	The string should begin with the specified word written after this character.	/^Bye/ matches "Bye" in "Bye Harry"
$	The string should end with the specified word written before this character.	/Harry$/ matches "Harry" in "and Harry"

Examples of Metacharacters:-

Following are the some examples of how we can use metacharacters in JavaScript.

- Do a global search for "m.d" in a string:

```
let reg = /m.d/g;
let str = "He's mad!"; //matches
```

- Do a global search for at least one "e":

```
let reg = /o+/g;
let str = "Codeeeee!";//matches
```

- Do a global search for a "5", followed by zero or more "0" characters:

```
let reg = /50*/g;
let str = "5, 500 or 5000?"; //matches
```

- Do a global search for "javaScript" at the end of a string:

```
let reg = /javaScript$/g;
let str = "Welcome to the tutorial of javaScript"; //matches
```

- Do a global search for "javaScript" at the beginning of a string:

```
let reg = /^javaScript/g;
let str = "javaScript supports OOP";//matches
```

- Do a global search for "code" followed by " harry":

```
let reg = /code(?= harry)/g;
let str = "code with harry"; //matches
```

- Do a global, case insensitive search for "code" not followed by "JavaScript":

```
let reg = /code(?! JavaScript/gi;
let str = "Code JavaScript"; //does not match
```

Code website.html as described/written in the video

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
        integrity="sha384-ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T" crossorigin="anonymous">
    <title>Document</title>
</head>

<body>
    <div class="container">
        <h1 id="heading" class='yourhead rhia is'> Welcome to Code With Harry</h1>
        <div id="myfirst" class="child red good" id="first">child 1

            <ul class="this" id='myul'>
```

```
                    <li class="childul" id='fui'>this</li>
                    <li class="childul">is</li>
                    <li class="childul">a</li>
                    <li class="childul">list </li>
                    <li class="childul" id='lui'>of my dreams</li>
            </div>
            <div class="child">child 2</div>
            <div class="child red">child 3</div>
            <div class="child">child 4</div>
            <form action="none.html" method="post">
                <a href="//codewithharry.com">Go to Code With Harry</a>
                <br>
                <br>
                Search this website: <input type="text" name="Hello" id="">
                <button id="btn">Submit form</button>
                <!-- <input type="button" id='btn' value="submit"> -->
            </form>
        </div>
        <!-- <br>
        <div class="no">this is a dummy div1</div>
        <div class="no">this is a dummy div2</div>
        <div class="no">this is a dummy div3</div> -->
        <div class="container">
            <h1>Student list</h1>
            <ul id="students"></ul>

            <button id="myBtn" class="btn btn-primary">Your Button</button>
            <button class="btn btn-primary">Fetch Data</button>
            <div id="content"></div>
        </div>

        <div class="container my-3">
            <h1>Pull the results by clicking the button below:</h1>

            <button class="btn btn-primary" id="meanings">Get meanings</button>
            <div class="my-2">
                <ul id="defs"></ul>
            </div>
```

```
    </div>

    <script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
        integrity="sha384-q8i/X+965DzO0rT7abK41JStQIAqVgRVzpbzo5smXKp4YfRvH+8abtTE1Pi6jizo"
        crossorigin="anonymous"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js"
        integrity="sha384-UO2eT0CpHqdSJQ6hJty5KVphtPhzWj9WO1clHTMGa3JDZwrnQq4sF86dIHNDz0W1"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"
        integrity="sha384-JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFf/nJGzIxFDsf4x0xIM+B07jRM"
        crossorigin="anonymous"></script>
</body>
<!-- <script src="js/tut12.js"></script> -->
<!-- <script src="js/tut14.js"></script> -->
<!-- <script src="js/tut15.js"></script> -->
<!-- <script src="js/tut16.js"></script> -->
<!-- <script src="js/tut17.js"></script> -->
<!-- <script src="js/tut18.js"></script> -->
<!-- <script src="js/tut20.js"></script> -->
<!-- <script src="js/tut21.js"></script> -->
<!-- <script src="js/tut23.js"></script> -->
<!-- <script src="js/tut24.js"></script> -->
<!-- <script src="js/tut25.js"></script> -->
<!-- <script src="js/tut27.js"></script> -->
<!-- <script src="js/tut28.js"></script> -->
<!-- <script src="js/tut30.js"></script> -->
<!-- <script src="js/tut31.js"></script> -->
<!-- <script src="js/tut32.js"></script> -->
<!-- <script src="js/tut34.js"></script> -->
<!-- <script src="js/tut37.js"></script> -->
<!-- <script src="js/tut39.js"></script> -->
<!-- <script src="js/tut39b.js"></script> -->
<!-- <script src="js/tut41.js"></script> -->
<!-- <script src="js/tut43.js"></script> -->
<!-- <script src="js/tut44.js"></script> -->
<!-- <script src="js/tut 45.js"></script> -->
<script src="js/tut46.js"></script>
```

```
</html>
```

Code tut46.js as described/written in the video

```
console.log('This is tutorial 47');

let regex = /harrsdfgy/;
// Lets look into some metacharacter symbols
regex = /^harrdc/; // ^ means expression will match if string starts with
regex = /harry$/; // $ at the end of the string means "string ends with"
regex = /h.rry/; //matches any one character
regex = /h*rry/; //matches any 0 or more characters
regex = /ha?rryi?t/; //? after character means that character is optional
regex = /h\*rry/

let str = "h*rry means codewith"; //

let result = regex.exec(str);
console.log("The result from exec is ", result);

if(regex.test(str)){
    console.log(`The string ${str} matches the expression ${regex.source}`);
}
else{
    console.log(`The string ${str} does not match the expression ${regex.source}`);
}
```

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