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Regular Expressions

A regular expression is an object that describes a pattern of characters.

The JavaScript **RegExp** class represents regular expressions, and both String and **RegExp** define methods that use regular expressions to perform powerful pattern-matching and search and replace functions on text.

Syntax:

A regular expression could be defined with the RegExp constructor, as follows

```
var pattern = new RegExp(pattern, attributes);

or simply

var pattern = /pattern/attributes;
```

Here is the description of the parameters:

Pattern: A string that specifies the pattern of the regular expression or another regular expression.

Attributes: An optional string containing any of the "g", "i", and "m" attributes that specify global, case-insensitive, and multiline matches, respectively.

All Patterns and Attributes:

https://www.w3schools.com/jsref/jsref_obj_regexp.asp

Example:

JavaScript code to validate an IP address

```javascript
function ValidateIPaddress(ipaddress) {
  if (/^(25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.
      (25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.
      (25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.
      (25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$/.test(ipaddress)) {
  return (true)
  }
  alert("You have entered an invalid IP address!")
  return (false)
}
```

Explained:

^ start of string

25[0-5]|	**The numbers 250-255**
2[0-4][0-9]|	**The numbers 200-249**
[01]?[0-9][0-9]	**The numbers 000-199**
\.	**Dot**

$ end of string