

# JavaScript Regular Expressions & Form Validation

## 1. Introduction to Regular Expressions

Regular Expressions (RegEx) are patterns used to match character combinations in strings.

## 2. Example Regular Expressions

```
let re = /hello/;
let result = re.test("hello world"); // true
let emailRe = /^[\\w.-]+@[\\w.-]+\\.\\w+$/;
emailRe.test("user@example.com"); // true
let phoneRe = /^\\d{10}$/;
phoneRe.test("9876543210"); // true
```

## 3. Useful RegEx Methods

```
string.match(pattern)
string.search(pattern)
string.replace(pattern, replacement)
pattern.test(string)
```

## 4. Form Validation with JavaScript

JavaScript can validate form fields using regular expressions before submission to improve user experience.

## 5. Email Validation Form Example

```
<form onsubmit="return validateForm()">
  <input type="text" id="email" placeholder="Enter email">
  <input type="submit" value="Submit">
</form>
<script>
function validateForm() {
  const email = document.getElementById("email").value;
  const regex = /^[\\w.-]+@[\\w.-]+\\.\\w+$/;
  if (!regex.test(email)) {
    alert("Invalid email address!");
    return false;
  }
  return true;
}
</script>
```