JavaScript

Assignment 1: Create a JavaScript object representing a user with properties for name, email, and age. Write functions that manipulate this object, such as changing the name, updating the email, and calculating the user's birth year.

HTML:

```html
<!DOCTYPE html>

<html lang="en">

<head>

 <meta charset="UTF-8">

 <meta name="viewport" content="width=device-width, initial-scale=1.0">

 <title>JavaScript User Object</title>

 <script defer src="script.js"></script>

</head>

<body>

 <h1>JavaScript User Object</h1>

 <div id="output"></div>

</body>

</html>
```

JavaScript:

```javascript
let user = {

name: 'Abc',

email: 'abc@example.com',

 age: 22,

};

function changeName(newName) {

 user.name = newName;

}
```

```javascript
function updateEmail(newEmail) {
 user.email = newEmail;
}
function calculateBirthYear(currentYear) {
 return currentYear - user.age;
}
changeName('xyz');
let birthYear = calculateBirthYear(new Date().getFullYear());
document.getElementById('output').innerHTML = `
 <p>Name: ${user.name}</p>
 <p>Email: ${user.email}</p>
 <p>Age: ${user.age}</p>
 <p>Birth Year: ${birthYear}</p>
`;
```

Assignment 2: Use regular expressions in JavaScript to validate the email address entered in the form. It should check for the correct format of the email and display a message to the user if the format is incorrect.

HTML Form:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Email Validation Form</title>
</head>
<body>
    <h2>Email Validation Form</h2>
    <form id="emailForm" onsubmit="validateEmail(); return false;">
        <label for="email">Email:</label>
        <input type="email" id="email" name="email" required>
```

```html
    <button type="submit">Submit</button>

  </form>

  <p id="emailError" style="color: red; display: none;">Please enter a valid email address.</p>


  <script src="emailValidation.js"></script>
</body>
</html>
```

JavaScript:

```javascript
function validateEmail() {

  let emailInput = document.getElementById('email').value.trim();

  let emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;


  if (emailRegex.test(emailInput)) {

    document.getElementById('emailError').style.display = 'none';

    alert('Email is valid!');

  } else {

    document.getElementById('emailError').style.display = 'block';

  }

}
```