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PMCA601P - Full Stack Web Development –Lab
CAT -1   Slot:L3+L4   Prof. Sumangali K
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Q1.Design a web page using HTML, CSS, and JavaScript that validates credit card numbers based on the following requirements. The validation should use regular expressions to ensure the credit card numbers adhere to the specific formats of major credit card types.
i) The page should include a dropdown menu to select the credit card type (e.g., Diners Club, Visa, MasterCard, American Express).
ii) Provide a text input field to allow the user to enter the credit card number.
iii) Include a "Validate" button that, when clicked, checks whether the entered credit card number is valid.
iv) Display a message below the button indicating whether the credit card number is valid or invalid.

Major credit card numbers must be in the following formats and display the possible validation error messages if required.
American Express—Numbers start with 34 or 37 and consist of 15 digits.
Diners Club—Numbers begin with 300 through 305, or 36 and 38 and consists of 14 digits
Discover—Numbers begin with 6011 or 65 and consist of 16 digits.
JCB—Numbers beginning with 2131 or 1800 consist of 15 digits, whilenumbers beginning with 35 consist of 16 digits.
MasterCard—Numbers start with the numbers 51 through 55 and consistof 16 digits.

CODE:

```
<!DOCTYPE html>
<html lang="en">
  <head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Credit Card Validator</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      padding: 0;
      display: flex;
      flex-direction: column;
      align-items: center;
```

```css
        height: 100vh;
        background-color: #9feed6;
    }
    h1 {
        text-align: center;
        margin-top: 30px;
        padding: 20px;
    }
    .container {
        width: 600px;
        padding: 20px;
        background-color: #fff;
        border-radius: 10px;
        box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
        text-align: center;
    }
    label {
        display: block;
        margin-top: 10px;
    }
    input[type="text"], select {
        width: 95%;
        padding: 10px;
        margin-top: 15px;
        border: 1px solid #ccc;
        border-radius: 5px;
    }
    button {
        width: 60%;
        padding: 10px;
        margin-top: 15px;
        background-color: #007bff;
        color: white;
        border: none;
        border-radius: 5px;
        cursor: pointer;
    }
    button:hover {
        background-color: #0056b3;
    }
    .output {
        margin-top: 20px;
        display: none;
        background-color: #f9f9f9;
        padding: 10px;
```

```css
      border-radius: 5px;
      border: 1px solid #ccc;
    }
    .output p {
      margin: 0;
    }
    .valid {
      color: green;
      font-weight: bold;
    }
    .invalid {
      color: red;
      font-weight: bold;
    }
  </style>
</head>
```

```html
<body>
  <h1>Credit Card Validator</h1>
  <div class="container">
    <label for="card-type">Enter Credit Card Type:</label>
    <select name="card-type" id="">
      <option value="">Select Card Type</option>
      <option value="DinersClub">Diners Club</option>
      <option value="Visa">VISA</option>
      <option value="MasterCard">MasterCard</option>
      <option value="AmericanExpress">American Express</option>
    </select>

    <label for="card-number">Enter Credit Card Number:</label>
    <input type="text" id="card-number" placeholder="Enter card number">
    <button type="button" onclick="validateCardNumber()">Validate</button>
    <div class="output" id="output"></div>
  </div>

  <script>
    function validateCardNumber() {
      const cardInput = document.getElementById('card-number');
      const cardNumber = cardInput.value.trim();
      const outputDiv = document.getElementById('output');
      const cardPatterns = {
      "American Express": /^(34|37)\d{13}$/,
      "Diners Club": /^((3(?:0[0-5])\d{11})|(36|38)\d{12})$/,
      "Discover": /^(6011\d{12}|65\d{14})$/,
      "JCB": /^(?:2131\d{11}|1800\d{11}|35\d{14})$/,
```

```javascript
        "MasterCard": /^(5[1-5]\d{14})$/,
        "Visa": /^4(\d{12}|\d{15})$/
      };

      let isValid = false;
      let cardType = "";
      for (const [type, pattern] of Object.entries(cardPatterns)) {
        if (pattern.test(cardNumber)) {
          isValid = true;
          cardType = type;
          break;
        }
      }
      outputDiv.style.display = 'block';
      if (isValid) {
        outputDiv.innerHTML = `<p class='valid'>Valid Card!<br> Card Number:
        ${cardNumber} <br> Card Type: ${cardType}</p>`;
      } else {
        outputDiv.innerHTML = `<p class='invalid'>Invalid Card Number</p>`;
      }
      cardInput.value = ';
      }
    </script>
  </body>
</html>
```

OUTPUT:

Credit Card Validator

Enter Credit Card Type:

Diners Club ⌄

Enter Credit Card Number:

Enter card number

Validate

Valid Card!
Card Number: 30500014785214
Card Type: Diners Club