Assignment No: 4

Design and develop a responsive website to calculate Electricity bill using SpringBoot. Condition for first 50 units – Rs. 3.50/unit, for next 100 units – Rs. 4.00/unit, for next 100 units – Rs. 5.20/unit and for units above 250 – Rs. 6.50/unit. You can make the use of bootstrap as well as jQuery.

Name: Bhavin Patil

Class: TYCS-D

Roll No: 66

Batch: D3

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electricityController.java:

```java
package com.example.electricityBill.Controller;

import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestParam;

@Controller
public class electricityController {
    @GetMapping("/")
    public String showForm() {
        return "input";
    }
    @PostMapping("/")
    public String calculateBill(@RequestParam("units") int units, Model
            model) {
        double bill = 0;
        if (units <= 50) {
            bill = units * 3.5;
        } else if (units <= 150) {
            bill = 50 * 3.5 + (units - 50) * 4.0;
        } else if (units <= 250) {
            bill = 50 * 3.5 + 100 * 4.0 + (units - 150) * 5.2;
        } else {
            bill = 50 * 3.5 + 100 * 4.0 + 100 * 5.2 + (units - 250) * 6.5;
        }
        model.addAttribute("bill", bill);
        return "output";
    }
}
```

Templates

a. Input.html

```html
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
```

```html
<head>
    <title>Electricity Bill Calculator</title>
    <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.m
in.css" integrity="sha384-
ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
crossorigin="anonymous"/>
    <link rel="stylesheet" th:href="@{/style.css}"/>

    <style>
        /* Custom CSS Styles */
        body {
            background-color: #f5f5f5;
            font-family: Arial, sans-serif;
        }
        .container {
            margin-top: 40px;
            margin-bottom: 40px;
        }
        h2 {
            text-align: center;
            margin-bottom: 20px;
        }
        h4 {
            text-align: center;
            margin-bottom: 40px;
            color: #333;
        }
        form {
            max-width: 500px;
            margin: auto;
            padding: 30px;
            background-color: #fff;
            border-radius: 5px;
            box-shadow: 0 2px 6px rgba(0, 0, 0, 0.1);
        }
        label {
            font-weight: bold;
        }
        input {
            border-radius: 3px;
            border: 1px solid #ccc;
            padding: 8px 12px;
            font-size: 16px;
            margin-bottom: 20px;
            width: 100%;
            box-sizing: border-box;
        }
        button {
            background-color: #007bff;
            color: #fff;
            border: none;
            border-radius: 3px;
            padding: 10px 20px;
            font-size: 16px;
            font-weight: bold;
            cursor: pointer;
            transition: background-color 0.3s ease-in-out;
        }
        button:hover {
            background-color: #0062cc;
```

```
        }
    </style>
</head>
<body>
<div class="container">
    <h2>Electricity Bill Generator</h2>
    <h4 class="my-4">Generate your bill here</h4>
    <form method="post" th:action="@{/}" id="billForm">
        <div class="form-group my-3">
            <label for="units">Enter Total Units Consumed:</label>
            <input type="number" class="form-control my-3" id="units"
name="units" required>
        </div>
        <button type="submit" class="btn btn-primary" id = "calculate-
btn">Calculate</button>
    </form>
    <br>
</div>
<script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>
<script>
    $(document).ready(function() {
        $('#billForm').submit(function(event) {
            event.preventDefault();
            var units = parseInt($('#units').val());
            if (units <= 0 || isNaN(units)) {
                alert('Please enter a valid number of units consumed.');
                return;
            }
            this.submit();
        });
    });
</script>
</body>
</html>
```

b. **Output.html**

```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
<head>
    <title>Electricity Bill Calculator</title>
    <link rel="stylesheet"

href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.m
in.
css"
            integrity="sha384-
ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
            crossorigin="anonymous">
    <style>
        body {
            background-color: black;
        }
        .card {
            background-color: #1c1c1c;
            color: white;
        }
        #alerticon {
            background-image:
url('https://cdn4.iconfinder.com/data/icons/electricity-energy-and-
electronic-devices/512/electricity_bill-512.png');
```

```
            background-size: 25px;
            background-repeat: no-repeat;
            background-position: left center;
            padding-left: 35px;
        }
    </style>
</head>

<body>
<div class="container">
    <div class="row mt-5">
        <div class="col-md-6 offset-md-3">
            <h1 class="text-center mb-4">Electricity Bill</h1>
            <div class="card">
                <div class="card-body">
                    <div class="alert alert-success" id =
"alerticon"><strong>Electricity Bill: </strong>Rs <span
                        th:text="${bill}"></span></div>
                </div>
            </div>
        </div>
    </div>
</div>
</body>
</html>
```

Outputs: