Assignment 3
GrapeCity
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Tip Calculator Documentation

The Tip Calculator is a web- application that calculates the tip amount and total amount to be paid per person based on the bill amount, tip percentage, and number of people. The application is designed to be used by restaurant chains with outlets across the globe.

Getting Started

To use the Tip Calculator, the user must enter the bill amount, tip percentage, and number of people in the provided input fields. Once all fields are filled out, the user can click on the "Calculate" button to see the tip amount and total amount per person.

User Interface

The Tip Calculator has a simple user interface that consists of the following elements:

- *Bill field*: The user enters the bill amount. Only numeric input is valid.
- *Tip % field*: This is where the user enters the tip percentage. Only numeric input is valid.
- *Number of People field:* This is where the user enters the number of people. Only numeric input is valid.
- *Calculate button*: This button is used to calculate the tip amount and total amount per person.
- OUTPUT: This section displays the *tip amount* and *total amount per person* in the currency of the country where the restaurant outlet is located.

Functionality

The Tip Calculator has the following functionality:

- The application calculates the tip amount and total amount per person based on the bill amount, tip percentage, and number of people.
- The application displays an error message if any of the input fields contain invalid values or are empty.

- The application can handle multiple calculations without reloading the page or resetting the inputs.
- The application can handle multiple users accessing the application at the same time.

About the Code

The code creates a TipCalculator class with a constructor that takes in the bill amount, tip percentage, and number of people. It also has two methods, calculateTip() and calculateTotal(), that calculate the tip amount and total amount to be paid per person, respectively.

The code then adds an event listener to the calculate button that retrieves the user inputs for bill amount, tip percentage, and number of people. It then checks if all fields have valid values, creates a new instance of the TipCalculator class, and calculates the tip and total amounts per person using the methods of the class. The results are then displayed in the HTML element with the id "result".

If any error occurs during the calculations, an error message is displayed instead of the OUTPUT.

Classes

The Tip Calculator consists of a single class, TipCalculator, that contains the following properties and methods:

- Properties
  .1. billAmount: This property represents the bill amount entered by the user.
  .2. tipPercentage: This property represents the tip percentage entered by the user.
  .3. numPeople: This property represents the number of people entered by the user.
- Methods
  .1. constructor(billAmount, tipPercentage, numPeople): This method is the class constructor that initializes the billAmount, tipPercentage, and numPeople properties.
  .2. calculateTip(): This method calculates the tip amount per person based on the bill amount, tip percentage, and number of people.
  .3. calculateTotal(): This method calculates the total amount per person based on the bill amount, tip percentage, and number of people.

Exception Handling

The Tip Calculator uses try-catch blocks to handle exceptions that may occur during the calculations. If any error occurs, an error message is displayed instead of the results.

Conclusion

The Tip Calculator is a simple and useful application for restaurant chains that want to provide a convenient way for their customers to calculate the tip amount and total amount per person. The application is easy to use, responsive, and accessible, and can handle multiple users accessing the application at the same time.