



UNIT 03

LESSON 03.04



RESTAURANT BILL TAX AND TIP CALCULATOR

The restaurant bill calculator consists of a web form:

- inputs for Food and Beverage subtotals
- select menus for Tip and Tax percent
- a Calculate button to call the `calcBill` function
- an h2 to display the itemized bill made by the function

1. Get the form objects:

```
let food = document.getElementById('food');
let bev = document.getElementById('bev');
let taxMenu = document.getElementById('tax-menu');
let tipMenu = document.getElementById('tip-menu');
let calcBtn = document.getElementById('calc-btn');
let response = document.getElementById('response');
```

2. Have the button listen for a click and call the `calcBill` function when it is clicked:

```
calcBtn.addEventListener('click', calcBill);
```

3. Define the function. First thing it does is prevent the form from doing a default page reload:

```
function calcBill(event) {
  event.preventDefault();
}
```

4. Next, get the values from the form.

- Use the `Number()` method to convert the "number-like strings" to real numbers:

```
function calcBill(event) {
  event.preventDefault();

  let foodTot = Number(food.value);
  let bevTot = Number(bev.value);
  let tipPct = Number(tipMenu.value);
```

```
    let taxPct = Number(taxMenu.value);  
    // calc a sub total by adding food and bev  
    let subTot = foodTot + bevTot;  
  }
```

5. Calculate the tip and tax from their percents. To do this, multiply `subTot` by the tip and tax rates, respectively. Divide by 100, because 15% has a numeric value of 0.15.

```
function calcBill(event) {  
  event.preventDefault();  
  
  let foodTot = Number(food.value);  
  let bevTot = Number(bev.value);  
  let tipPct = Number(tipMenu.value);  
  let taxPct = Number(taxMenu.value);  
  
  // get a sub total by adding food and bev  
  let subTot = foodTot + bevTot;  
  
  // calc the tax and tip from their pcts  
  let taxTot = subTot * taxPct / 100;  
  let tipTot = subTot * tipPct / 100;  
}
```

6. Add the tax and tip to the subtotal and round off `tipTot`, `taxTot` and `total` to two decimal places with `toFixed(2)`;

```
function calcBill(event) {  
  event.preventDefault();  
  
  let foodTot = Number(food.value);  
  let bevTot = Number(bev.value);  
  let tipPct = Number(tipMenu.value);  
  let taxPct = Number(taxMenu.value);  
  
  // get a sub total by adding food and bev  
  let subTot = foodTot + bevTot;  
  
  // calc the tax and tip from their pcts  
  let taxTot = subTot * taxPct / 100;  
  let tipTot = subTot * tipPct / 100;  
  
  // add up the total:  
  let total = subTot + taxTot + tipTot;  
  
  // round off tip and total to 2 decimal places  
  // do this AFTER all math is done, because toFixed()  
  // converts the number to a string  
  tipTot = tipTot.toFixed(2); // becomes a string
```

```
    taxTot = taxTot.toFixed(2); // becomes a string
    total = total.toFixed(2);
}
```

7. Concatenate a bill message and output it. The output includes `
` tags, so use `innerHTML` instead of `textContent`:

```
// round off tip and total to 2 decimal places
// do this AFTER all math is done, because toFixed()
// converts the number to a string
tipTot = tipTot.toFixed(2); // becomes a string
taxTot = taxTot.toFixed(2); // becomes a string
total = total.toFixed(2);

// concat bill
let bill = `
***JS BISTRO***
<br>***GUEST CHECK***
<br>Food: ${foodTot}
<br>Beverage: ${bevTot}
<br>Sub-Total: ${subTot}
<br>Tax %: ${taxPct}
<br>Tax: ${taxTot}
<br>Tip Pct %: ${tipPct}
<br>Tip: ${tipTot}
<br>***PLEASE PAY:***
<br>TOTAL: ${total}
<br>***THANK YOU!***`;

// output the bill:
response.innerHTML = bill;
}
```

END Lesson 03.04 NEXT: Lesson 03.05