**Udemy Coding Challenge 2; Arrays**

**The Problem**

Steven is building a tip calculator; using the rules – tip 15% of the bill if the bill value is between 50 and 300 and if the value is over this; the tip is 20%.

1. Write a function ‘calcTip’ that takes any bill value as an input and returns the corresponding tip, calculated based on the rules above. Use the function type you like the most.
2. Create an array; ‘bills’ containing the test data below.
3. Create an array ‘tips’ containing the tip value for each bill, calculated from the function created before.
4. BONUS: Create an array ‘total’ containing the total values, so the bill + tip.

TEST DATA: 125, 555 and 44.

**Tip Calculator**

'use strict'

//Coding Challenge Tip Calculator

//The Bill Amount

*let* bill = 301;

console.log(`The current bill is calculated at ${bill} euros.`);

*const* calcTip = *function*(*a*) {

if(*a* >= 50 && *a* <= 300 ) {

console.log('Tip calculated at 15%');

return *a* \* 1.15;

} else if(*a* > 300) {

console.log('Tip calculated at 20%');

return *a* \* 1.2;

} else if(*a* < 50) {

console.log('Tip calculated at 20%');

return *a* \* 1.2;

}

};

console.log(`Your new bill total is: ${calcTip(bill)} euros.`);

Here is the code for the new calculator. Notice that the local variable for our function has just been set to ‘a’. This is for the sake of simplicity.

When we use our console.log to call the function, we use the variable ‘bill’ as our argument. This means that we can change the number for our bill variable and our function will be called with the new value.

**Results**

Graphical user interface, text, application

Description automatically generatedTest Data 1:

Test Data 2:

Table

Description automatically generated

Test Data 3:

Text

Description automatically generated

The code is working.

**Create an Array**

An array needs a value in each position, and that value can actually be the returned value of a function. So you can call a function as an array value. Do not store the tip values in separate variables first, but right into the new array.

First we create a new array named ‘bill’;

*const* bill = [125, 555, 44];

Next we create a new variable called tip. In it we use our function to add a number to the array.

*const* tip = [calcTip(bill[0]), calcTip(bill[1]), calcTip(bill[2])];

Now when we log to the console;

console.log(bill, tip);



Notice we get the bill amounts on the left and the bill + tip amounts on the right.

We actually have two arrays here. Our first array is called ‘bill’ and the second array is called ‘tip’.

Information is extracted from the first array, implemented into a function, and the data returned is then stored in the new array.