

Lab 5 - Create bank helper functions

Preparations

If you couldn't finish the previous exercise, you can copy and paste the previous solution from the *labsSolutions* folder.

Work in the `main.ts` file.

Exercise 1 - Format customer names

In our bank we will need to format customer names.

1. Create that function. The shape looks like this:

```
function formatName(firstName: string, lastName: string, insertion: string): string {  
    // TODO: Implement  
}
```

2. Test that it works: `formatName('Pascalle', 'Vries', 'de')` should result in `'Pascalle de Vries'`.
3. Change `preposition` to make sure it is optional. `formatName('Foo', 'Bar')` should result in `'Foo Bar'`.

Exercise 2 - Generate IBAN account numbers

In the `main.ts` file, create a `generateIban` function. It should generate a new random IBAN account number. It does *not* have to be a valid IBAN, just one that looks like it.

1. Implement the following function:

```
function generateIban(bankCode: string, countryCode: string) {  
    // TODO: implement  
    return {  
        countryCode: /* TODO */,  
        bankCode: /* TODO */,  
        accountNumber: /* TODO */,  
        controlNumber: '00'  
    };  
}
```

As control number, you can use `'00'` for now.

Note: you can use `Math.floor(Math.random() * 10000000000).toString()` to generate random account number

2. Make the `bankCode` and `countryCode` optional, the default values are `DEFAULT_BANK_CODE` and `DEFAULT_COUNTRY_CODE` respectively.
3. Can you guess what the return type of this function is? Verify this by hovering over the function name in your code editor.

Exercise 3 - Format IBAN account numbers

1. Create and implement the `formatIban(iban: any)` function. It should format the IBAN in groups of 4:

```
NL50 TYPE 3532 0409 92
NL97 INGB 9589 7465 22
DE09 DEUT 6102 3797 98
```

Verify that your method works using these examples:

```
const ibanTypedBank = generateIban();
const ibanIng = generateIban('INGB', 'NL');
const ibanDeutscheBank = generateIban('DEUT', 'DE');
console.log(formatIban(ibanTypedBank));
console.log(formatIban(ibanIng));
console.log(formatIban(ibanDeutscheBank));
```

2. Improve the function by using *Object matching* in the parameter names

Exercise 4 - Valid IBAN accounts - If time permits

Make sure that the `generateIban` function only generate *valid* IBAN account numbers by calculating the control number (https://nl.wikipedia.org/wiki/International_Bank_Account_Number).

Hint: you might need to use `BigInt` for this.