

## Test for removeCurrency()

### 1. Screen shot of terminal output of tests

```
week7 > Wallet.h main.cpp M Wallet.cpp M
41 std::string Wallet::toString(){
43     std::string s;
44     for (std::pair<std::string,double> pair : currencies)
45     {
PROBLEMS OUTPUT DEBUG CONSOLE PORTS TERMINAL
Print Wallet
BTC : 15.000000 ...
PS C:\Users\matto\OneDrive\cplusplus\project\week7> ./merkelrex
Tests for remove Currency
Start with this wallet
BTC : 15.000000
ETH : 5000.000000
USDT : 15000.000000

If the wallet does not contain this much currency, do not change the wallet and return True (Should be false as it cannot remove currency!?)
Try to remove 10000 ETH : 1
Print Wallet
BTC : 15.000000
ETH : 5000.000000
USDT : 15000.000000

If the wallet does contain at least this much currency of this type, remove the currency from the wallet and return true
Try to remove 7500 USDT : 1
Print Wallet
BTC : 15.000000
ETH : 5000.000000
USDT : 7500.000000

Throw an exception if amount < 0
Try to remove -10 BTC: terminate called after throwing an instance of 'std::exception'
what(): std::exception
PS C:\Users\matto\OneDrive\cplusplus\project\week7>
```

### 2. Test script in main() function

```
File Edit Selection View ... ← → project
EXPLORER PROJECT week7 > main.cpp M Wallet.cpp M
56 std::cout << "lets try to add -10 ETH" << std::endl;
57 wallet.insertCurrency("ETH", -10);
58 */
59 // Tests for remove currency
60 std::cout << "Tests for remove Currency" << std::endl;
61 wallet.insertCurrency("BTC", 15);
62 wallet.insertCurrency("USDT", 15000);
63 wallet.insertCurrency("ETH", 5000);
64 std::cout << "Start with this wallet" << std::endl;
65 std::cout << wallet.toString() << std::endl;
66 std::cout << "" << std::endl;
67 std::cout << "If the wallet does not contain this much currency, do not change the wallet and return True (Should be false as it cannot remove currency"
68 std::cout << "Try to remove 10000 ETH : " << wallet.removeCurrency("ETH", 10000) << std::endl;
69 std::cout << "Print Wallet" << std::endl;
70 std::cout << wallet.toString() << std::endl;
71 std::cout << "" << std::endl;
72 std::cout << "If the wallet does contain at least this much currency of this type, remove the currency from the wallet and return true " << std::endl;
73 std::cout << "Try to remove 7500 USDT : " << wallet.removeCurrency("USDT", 7500) << std::endl;
74 std::cout << "Print Wallet" << std::endl;
75 std::cout << wallet.toString() << std::endl;
76 std::cout << "" << std::endl;
77 std::cout << "Throw an exception if amount < 0" << std::endl;
78 std::cout << "Try to remove -10 BTC: " << wallet.removeCurrency("BTC", -10) << std::endl;
```

### 3. Screen shot of removeCurrency() function from Wallet class

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, ...
- Search Bar:** project
- Explorer:** Shows the project structure under 'PROJECT' with files like .vscode, week1, week2, week3, week4, week5, week7, data, CSVReader.cpp, CSVReader.h, main.cpp, MerkelMain.cpp, MerkelMain.h, merkelrex.exe, OrderBook.cpp, OrderBook.h, OrderBookEntry.cpp, OrderBookEntry.h, Wallet.cpp (selected), and Wallet.h.
- Code Editor:** Displays the code for the `removeCurrency` function in `Wallet.cpp`. The code checks if the amount is negative and throws an exception. It then checks if the currency type exists in the wallet. If not, it returns false. Otherwise, it checks if there is enough balance. If so, it subtracts the amount from the balance and returns true. If not, it returns false. Finally, it adds the amount back to the balance and updates the currencies map.
- Terminal:** Shows the command `what(): std::exception` and the path `C:\Users\matto\OneDrive\cplusplus\project\week7> []`.