

Tests for insert currency

1. Screen shot of terminal output of tests

```
PS C:\Users\matto\OneDrive\Cplusplus\project\week7> ./merkelrex
Tests for insert Currency
Start with an empty wallet
Print wallet:
your wallet is empty

If currency 'type' is not in the wallet yet, set the amount to amount
Add 10 BTC and 10000 USDT
Print wallet:
BTC : 10.000000
USDT : 10000.000000

If currency 'type' is already in the wallet and has > 0, add amount to the current amount
Add some more currency, 5 BTC and 5000 USDT
Print wallet:
BTC : 15.000000
USDT : 15000.000000

Throw an exception if 'amount' is less than 0
Lets try to add -10 ETH
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 ... Q project
EXPLORER PROJECT .vscode week7 > main.cpp M ...
week7 > main.cpp > main()
25 // Prototypes and declarations for functions below
26
27 std::string orderBookTypeToString(OrderBookType type);
28
29 int main()
30 {
31     // MerkelMain app;
32     //app.init();
33     //CSVReader::readCSV("crypto_dataset.csv");
34
35     Wallet wallet;
36     // Tests for insert Currency
37     std::cout << "Tests for insert currency" << std::endl;
38     std::cout << "Start with an empty wallet" << std::endl;
39     std::cout << "Print wallet:" << std::endl;
40     std::cout << wallet.toString() << std::endl;
41     std::cout << "" << std::endl;
42     std::cout << "If currency 'type' is not in the wallet yet, set the amount to amount" << std::endl;
43     std::cout << "Add 10 BTC and 10000 USDT" << std::endl;
44     wallet.insertCurrency("BTC", 10);
45
46     wallet.insertCurrency("USDT", 10000);
47
48     std::cout << "Print wallet:" << std::endl;
49     std::cout << wallet.toString() << std::endl;
50     std::cout << "If currency 'type' is already in the wallet and has > 0, add amount to the current amount" << std::endl;
51     std::cout << "Add some more currency, 5 BTC and 5000 USDT" << std::endl;
52     wallet.insertCurrency("BTC", 5);
53
54     wallet.insertCurrency("USDT", 5000);
55
56     std::cout << "Print wallet:" << std::endl;
57     std::cout << wallet.toString() << std::endl;
58     std::cout << "Throw an exception if 'amount' is less than 0" << std::endl;
59     std::cout << "Lets try to add -10 ETH" << std::endl;
60     wallet.insertCurrency("ETH", -10);
```

3. Screen shot of insertCurrency() function from Wallet class

The screenshot shows the Visual Studio Code interface. The left sidebar is the Explorer view, displaying a project structure with files like CSVReader.cpp, main.cpp, and Wallet.cpp. The main area is the Editor view, showing the code for the insertCurrency() function. The code is as follows:

```
17 void Wallet::insertCurrency(std::string type, double amount){  
18     double balance;  
19     // Throw exception if 'amout' is less than 0  
20     if(amount < 0)  
21     {  
22         throw std::exception{};  
23     }  
24     // if no currency type is in wallet set balance to 0  
25     if(currencies.count(type) == 0)  
26     {  
27         balance = 0;  
28     }  
29     else  
30     { // is there  
31         balance = currencies[type];  
32     }  
33     // add amount to balance, set to zero if no currency type or adds to balqance if type in wallet  
34     balance += amount;  
35     currencies[type] = balance;  
36 }  
37  
38 }  
39 }  
40 }
```