PAD Report – Exercise 1

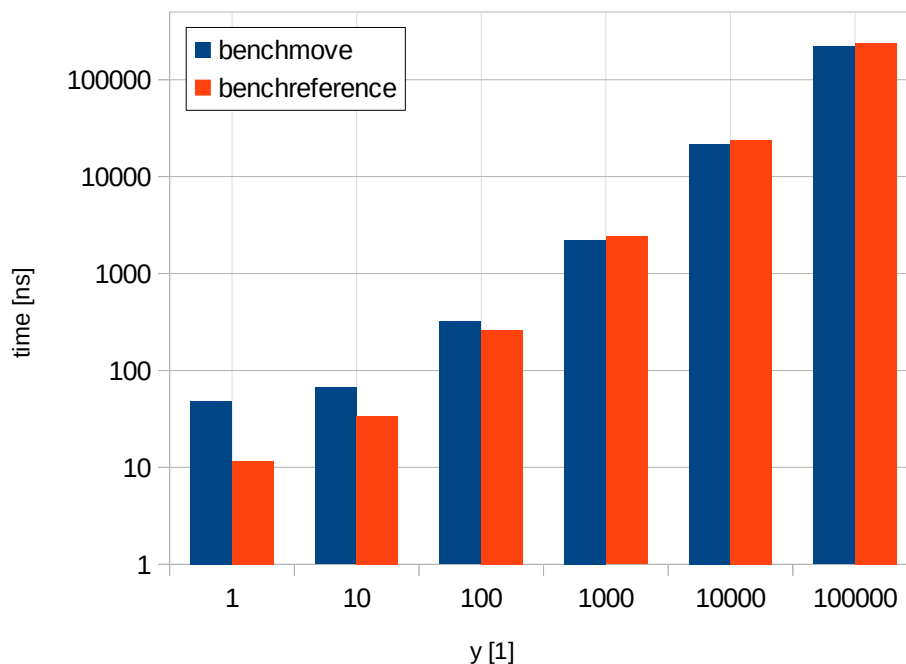Group 08
Marco Dittmann   3727948
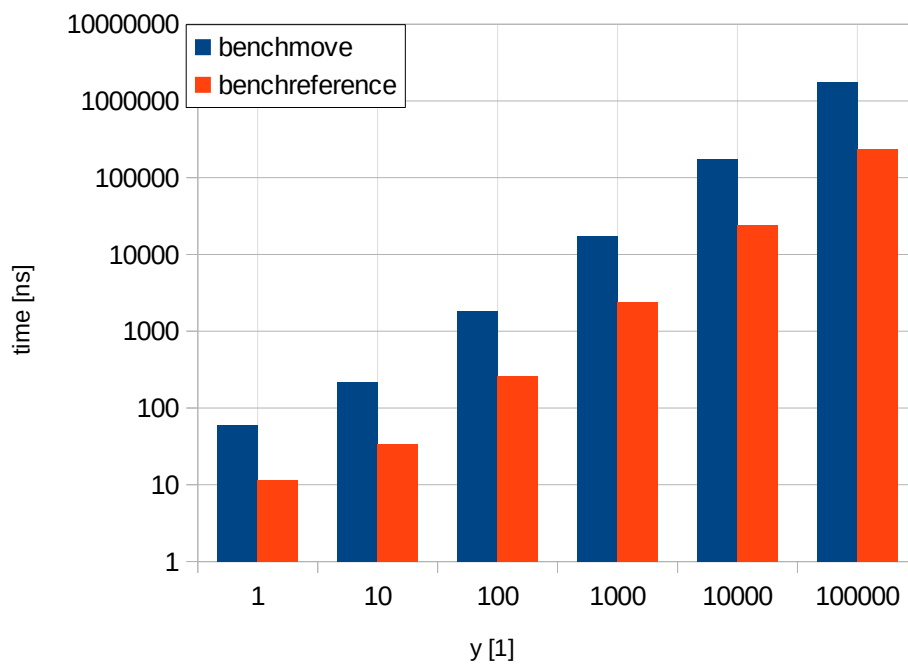Jannik Schacht

Exercise 1

1.1   Allocation and copying

Below are the benchmark results for the different Matrix-vector-product implementations plotted in a logarithmic scale. The number of elements for vector x and vector y has been increased step by step and average computation time have been measured. It is shown that the „Reference" variant performs faster than the „Move" variant only in cases where the total number of elements is small.
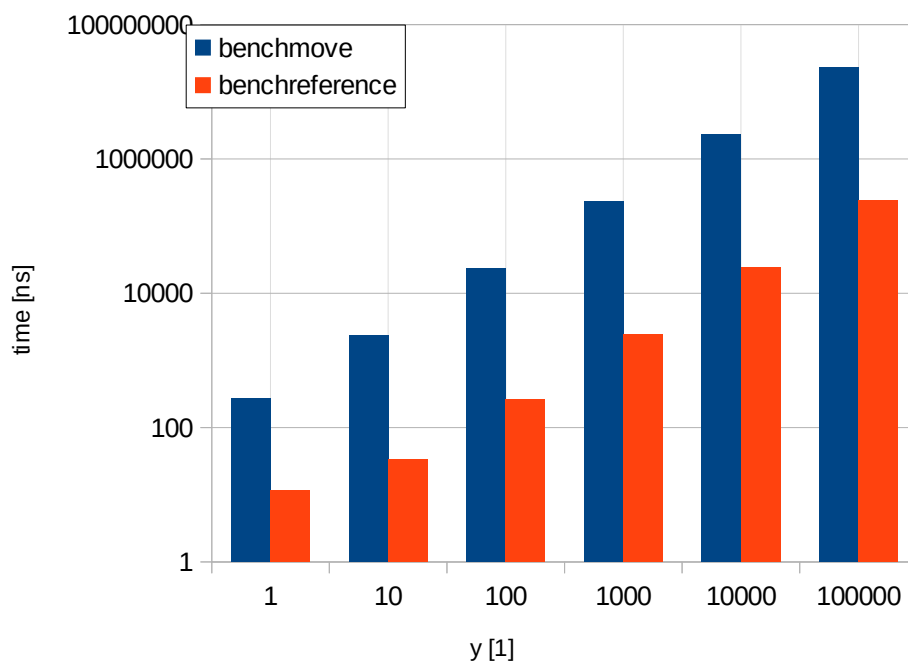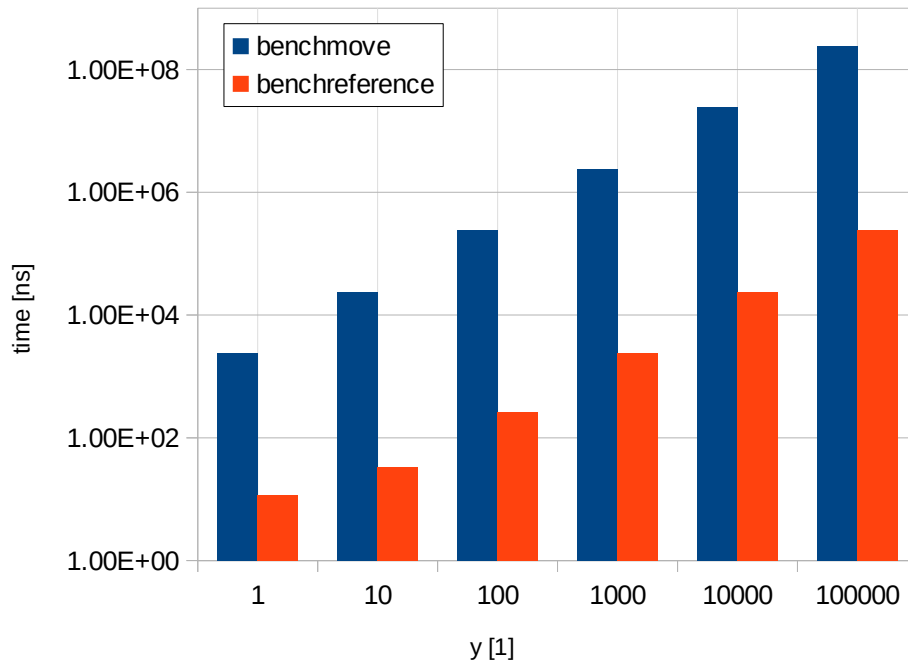

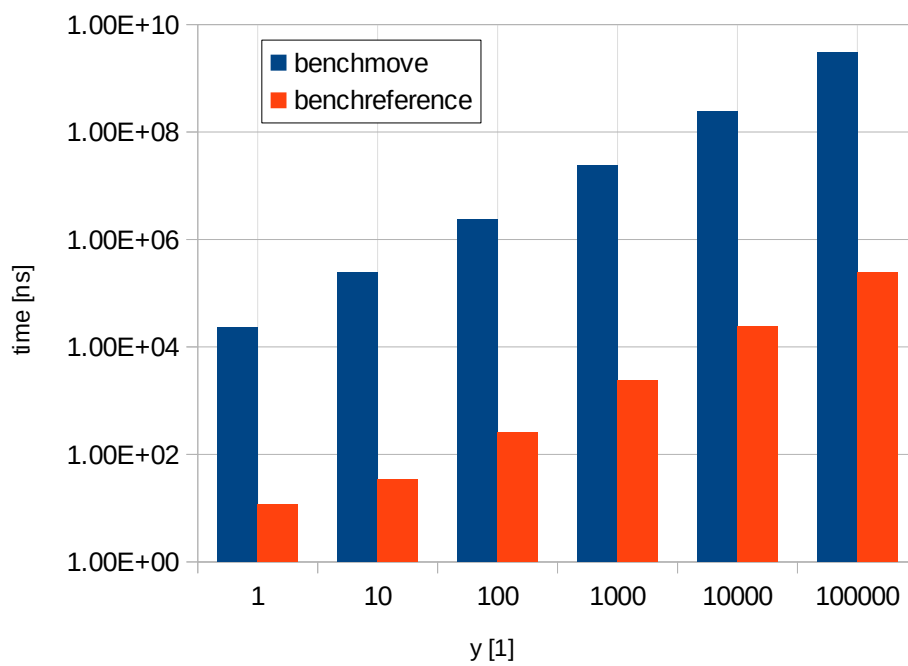Benchmark comparison for x = 1

Benchmark comparison for x = 10

Benchmark comparison for x = 100

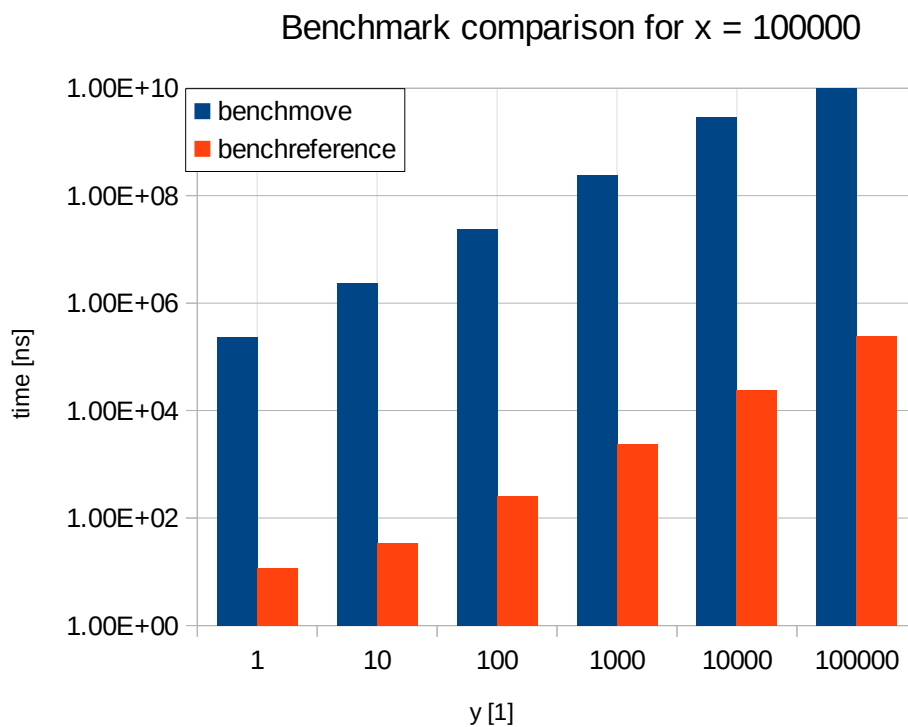## Benchmark comparison for x = 1000

Benchmark comparison for x = 10000

Benchmark comparison for x = 100000

1.2 Lambdas

We successfully implemented the lambda function and got the correct result 1337.

1.3 std::async()

Unfortunately, for some reason, implementing the matrix multiplication asynchronously did not work for us. We tried to debug but didn't find the issue.