

# Lab Report

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I found this lab to be of great importance.

This is my first time working on fortran and chapel and the syntax is quite different from the normal programming languages.

I struggled a lot with the syntax and grasping the flow of fortran.

The array operations were tricky to say the least and I struggled particularly with the reversal of array.

As for the matrix multiplication, The sequential version was a bit easier to implement as compared to the data parallel version

It was a little tricky to identify the placement of the forall loops.

But when the timings for the programs were compared, then the data parallel one was significantly faster than the sequential version.

The data management was also better as can be seen using traceouts of the outputs in a separate file.

As for the bank versions, converting bank.c to bank.chpl was a difficult task because the syntax of both the programs is quite different.

Also, bank.chpl has to handle all the transactions in the for loop whereas in bank.c, we can divide the work between the different functions which makes C easier to comprehend.

But in terms of performance, it is chapel which is faster as compared to the C program.

This can be attributed to the fact that we can manage threads using data parallel as well as for all loop.

The number of lines of code is quite comparable in both but chapel at times becomes a little messy to comprehend.

All in all, it was quite a nice experience to have written programs in fortran and chapel.