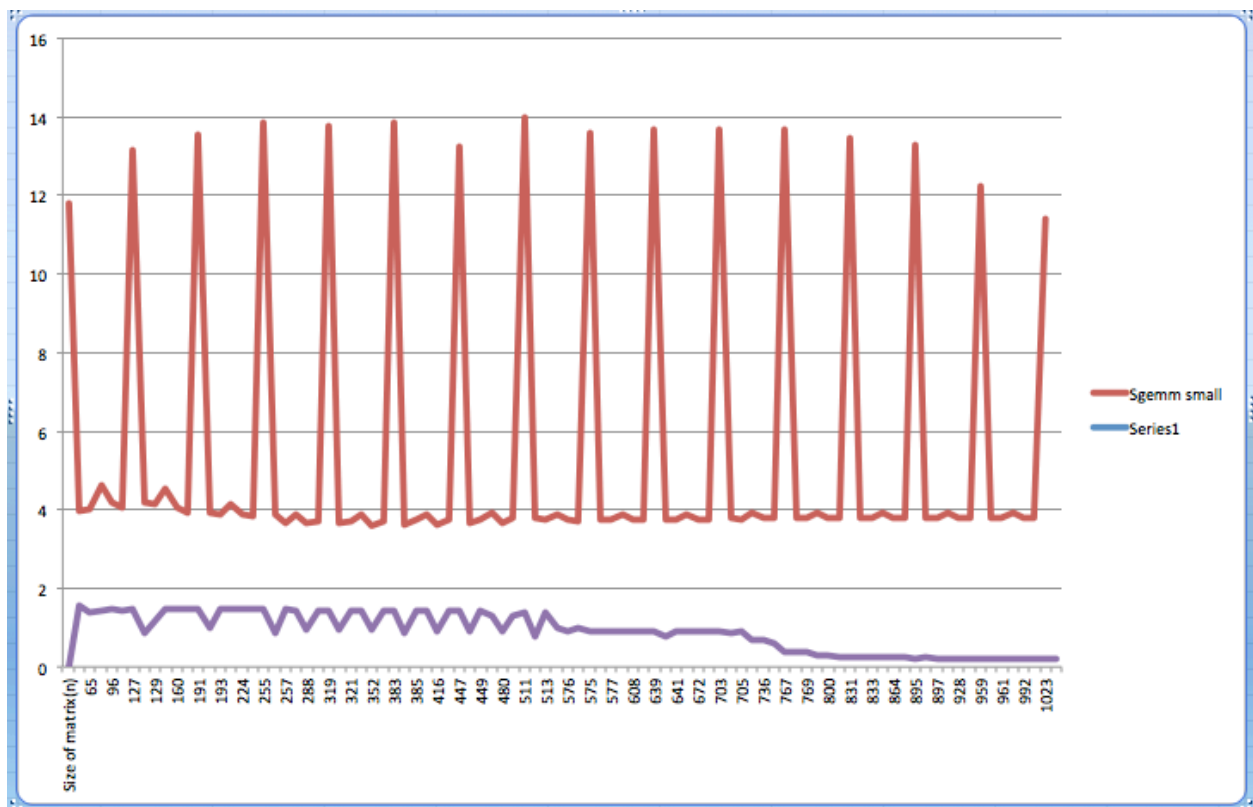Daniel Nakashima cs61c-hi
Chung Fai Tsim cs61c-eh

Matrix Multiply Writeup

In the innermost loop we used a total of 8 SSE registers for storing column values of the B matrix. We used another temp registers to perform our repeated calculations of multiplying and adding. Finally we used a register c0 to load back any calculated values into our C matrix. We also unrolled multiple times.

In the cases that we did not encounter a multiple of 64 which was what our performance was being tested on, we switched to the use of a single register thus allowing our performance work relatively well with 4 times as many calculations per cycle. In the case that the size of the matrix was not divisible by four either, we handled them was within our inner loop. We calculated how far offset were the the size of the input matrices. and naively did that difference.

The total number of xmm registers that were used were 15 registers. There occurred spilling onto the stack during the inner loop. We used a total of 14 arithmetic scalar instructions these were due to our direct use of scalar float values in the event of fringe cases.

 Series1 = sgemm-naive