Lab 1

1 3-D Array Multiplication

To obtain each element in matrix C, matrix A and B are divided into two dimensional matrices, A' and B' as can be seen in figure 1. For each two dimensional matrix, a single row and column is multiplied to get the corresonding element in the C matrix. This leads to a single value which is the element in the C matrix. This is done for all elements in the C matrix.

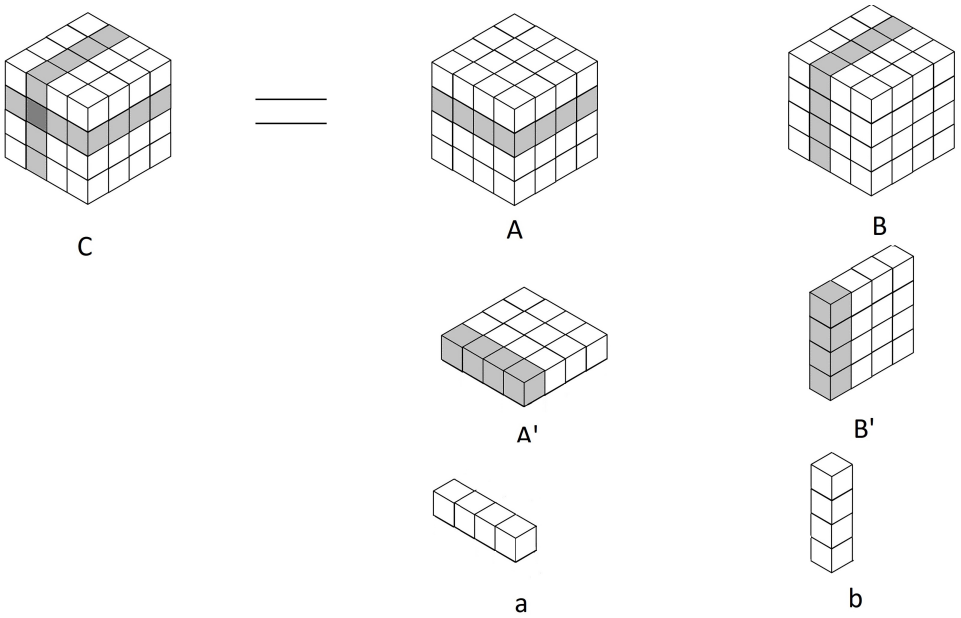

Figure 1: How each element in C was obtained from matrices A and B.

Two `for` loops were used to maintain the row and column of the current element in matrix C. Another `for` loop was used to traverse the depth of the matrix C. The row a and column b were then obtained from matrices A and B as seen in figure 1. Vector multiplication was then used on vectors a and b. The resulting value is the corresponding element of C.

This was repeated for all elements in matrix C.