

Justin Winchester

Dr. Zhao

Matrix Multiplication

Program:2

Click or tap here to enter text.

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# Introduction

Hi there! Welcome, this document will be laying out the details of my program. My program Justin\_Winchester\_Project2 is just a program that is designed to perform arithmetic, in this case multiplication and a little addition. This program reads in input from the keyboard and takes that data to construct to virtual matrices of integers and multiplies them.

This program also uses some programming tools and functions formatted in public libraries to perform the multiplication of the matrices more efficiently. This program constructs the matrices based on the size and elements put in by the user and then if multiplication is possible between the two matrices (column size of first matrix = row size of second matrix) then multiplication is done between the two and the result is saved in a third matrix the size and order determined by the row size of the first matrix and column size of the second.

Matrix multiplication is an algebraic technique in which elements are

# Product/Service/Methodology



# Key Findings

## Key Findings #1

A picture containing clock

Description automatically generated

Research and argument

[To replace a photo with your own, just delete it and then, on the Insert tab, click Picture.]

## Key Findings #2

Diagram

Description automatically generated

Research and argument

## Key Findings #3

Text, letter

Description automatically generated

Research and argument

# Visual Data

Graphical user interface, website

Description automatically generated

Diagram, schematic

Description automatically generated

Diagram, text

Description automatically generated

# Overhead view of hands shaking over a business papersConclusion

## Key Takeaways

* [jw925682@ada: ~]$ g++ Justin\_Winchester\_Project2.cpp -lpthread
* [jw925682@ada: ~]$ ./a.out
* please enter elements of row press enter then column4
* 3
* please enter elements 3
* please enter elements 2
* please enter elements 1
* please enter elements 2
* please enter elements 2
* please enter elements 1
* 1please enter elements 1
* please enter elements 2
* please enter elements 1
* please enter elements 2
* please enter elements 2
* please enter elements 2
* Matrix Number One
* 3 2 1
* 2 2 1
* 11 2 1
* 2 2 2
* please enter elements of row press enter then column3
* 4
* please enter elements 2
* please enter elements 3
* please enter elements 2
* please enter elements 2
* please enter elements 3
* please enter elements 2
* please enter elements 1
* please enter elements 2
* please enter elements 1
* please enter elements 2
* please enter elements 3
* please enter elements 2
* Matrix Number Two!!!
* 2 3 2 2
* 3 2 1 2
* 1 2 3 2
* Segmentation fault (core dumped)
* [jw925682@ada: ~]$ g++ Justin\_Winchester\_Project2.cpp -lpthread
* [jw925682@ada: ~]$ ./a.out
* please enter elements of row press enter then column2
* 2
* please enter elements 2
* please enter elements 2
* please enter elements 2
* please enter elements 2
* Matrix Number One
* 2 2
* 2 2
* please enter elements of row press enter then column22
* ^C
* [jw925682@ada: ~]$ g++ Justin\_Winchester\_Project2.cpp -lpthread
* [jw925682@ada: ~]$ ./a.out
* please enter elements of row press enter then column2
* 2

please enter elements 2

* please enter elements 2
* please enter elements 2
* please enter elements 2
* please enter elements 2
* Matrix Number One
* 2 2
* 2 2
* please enter elements of row press enter then column2
* 2
* please enter elements 2
* please enter elements 2
* please enter elements 2
* please enter elements 2
* Matrix Number Two!!!
* 2 2
* 2 2
* Result of matrix multiplication!:
* 8 8
* 8 8
* [jw925682@ada: ~]$ g++ Justin\_Winchester\_Project2.cpp -lpthread
* [jw925682@ada: ~]$ ./a.out
* please enter elements of row press enter then column2
* 3
* please enter elements 3
* please enter elements 2
* please enter elements 3
* please enter elements 2
* please enter elements 3
* please enter elements 2
* Matrix Number One
* 3 2 3
* 2 3 2
* please enter elements of row press enter then column3
* 4
* please enter elements 3
* please enter elements 3
* please enter elements 3
* please enter elements 4
* please enter elements 3
* please enter elements 2
* please enter elements 3
* please enter elements 2
* please enter elements 3
* please enter elements 2
* please enter elements 3
* please enter elements 2
* Matrix Number Two!!!
* 3 3 3 4
* 3 2 3 2
* 3 2 3 2
* Result of matrix multiplication!:
* 15 13 15 16
* 15 12 15 14
* [jw925682@ada: ~]$ g++ Justin\_Winchester\_Project2.cpp -lpthread
* [jw925682@ada: ~]$ ./a.out
* please enter elements of row press enter then column3
* 4please enter elements 3
* please enter elements 2
* please enter elements 1
* please enter elements 3
* please enter elements 2
* please enter elements 4
* please enter elements 3
* please enter elements 4
* please enter elements 3
* please enter elements 2
* please enter elements 3
* please enter elements 4
* Matrix Number One
* 3 2 1 3
* 2 4 3 4
* 3 2 3 4
* please enter elements of row press enter then column4
* 4
* please enter elements 3
* please enter elements 4
* please enter elements 3
* please enter elements 4
* please enter elements 3
* please enter elements 2
* please enter elements 1
* please enter elements 2
* please enter elements 1
* please enter elements 2
* please enter elements 1
* please enter elements 2
* please enter elements 1
* please enter elements 2
* please enter elements 3
* please enter elements 2
* Matrix Number Two!!!
* 3 4 3 4
* 3 2 1 2
* 1 2 1 2
* 1 2 3 2
* Result of matrix multiplication!:
* 15 16 11 16
* 18 16 10 16
* 15 16 11 16
* [jw925682@ada: ~]$ g++ Justin\_Winchester\_Project2.cpp -lpthread

[jw925682@ada: ~]$ ./a.out