Author, Date

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Brief summary of the software

This is a program based on C will be experimentally exploring the memory hierarchy using two scientific application kernels.

Project 4.2 implemented a simple scalar multiplication program in two different ways. This program will generate a random matrix and multiply each element of that matrix by a single scalar value.

Project 4.3 implemented a matrix multiplication program in six different ways.

These programs will output the running time and then I will give out a comparison of time of these programs.

How to build the software

1) Decompress project-04.tar.gz file to any directory you want.

2) Open terminal, use commands to go to the directory which you decompressed the file just.

3) Type command “make” to compile the c source file

How to use the software

Examples:

$shell ./scalarmult 8

$shell ./matrixmult 8

How you tested your software

1) Trying to execute the program by setting different upper bound

Examples

1) Command line format:

yufanxues-mbp:code yufanxue$ make

gcc -c -o support.o -Wall -O0 -g support.c

gcc -o scalarmult support.o -Wall -O0 -g scalarmult.c -lm

gcc -o matrixmult support.o -Wall -O0 -g matrixmult.c -lm

yufanxues-mbp:code yufanxue$ ./scalarmult 8

2 32 165.851231445   154.840707622

4 128 208.320313314   201.354866558

8 512 239.558075241   226.344121578

Known bugs and problem areas

No