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Class Exercise 1

Extend question 2 from the programming assignment as described:

Write the following programs to compute matrix addition:
Part a) Do a matrix addition sequentially
Part b) Divide the task into two threads

Test your program with matrices of these sizes:
250x250, 1000x1000 and **10000x10000**

Compute the **speedup** observed in each case. Tabulate your results in the following format:

Matrix Size	Sequential Time (Sec.)	Parallel Time(Sec.)	Speed-Up
250×250	0.022967	0.011298	2.032838

Analyze your observations and comment on the reasons for the observed speedup.

Note: Time taken for a chunk of code to execute can found with the clock() calls as follows:

```
#include <time.h>
int main()
{
  clock_t start, end;
  double cpu_time_used;
                    :
                    :
  start = clock();
                    :
                    :
Code whose time to measure; Think of which code sections to measure
                    :
                    :
  end = clock();
  cpu_time_used = ((double) (end - start)) / CLOCKS_PER_SEC;
  printf("took %f seconds to execute \n", cpu_time_used);
                    :
  printf(“Name: Uma and Roll no: xyz\n”);
}
```

What to submit: A document that includes:
1) The table and your analyses - reasoning on observed speedups
2) Screenshots of execution time in your system (6 pictures) - The last printf should be of your name and roll number and the screenshot should show the complete terminal window!

(Put your name and roll no. at the top of the document)