

Compose a program to multiply two NxN matrices in C.  
See "matrixTemplate.c" and "matrixTemplate.h". It's a function template other than a complete program.

Create a script to generate six programs that will multiply the same matrices with identical data in six different (i,j,k) orders.  
See "program\_generator.py". I wrote a Python script to generate the six function of different (i,j,k) orders.

Verify that the outputs of six different matrix programs are identical.  
There is an int type varibale **check** in the "main.c". The program will compare the result of the six functions if **check** is set to 1.

Compose a script to harvest the running times of N=100, 500, 1000 for the six different programs.  
There is a const int type varibale **N** defines the size of the matrix in the "main.c". The main function will run the six matrix multiplication functions. I simply change the varibale and ran the program for the three N values.

Plot your results with explanations. There are two investigations: a) performance behavior for six orders, and b) performance behavior for different N.

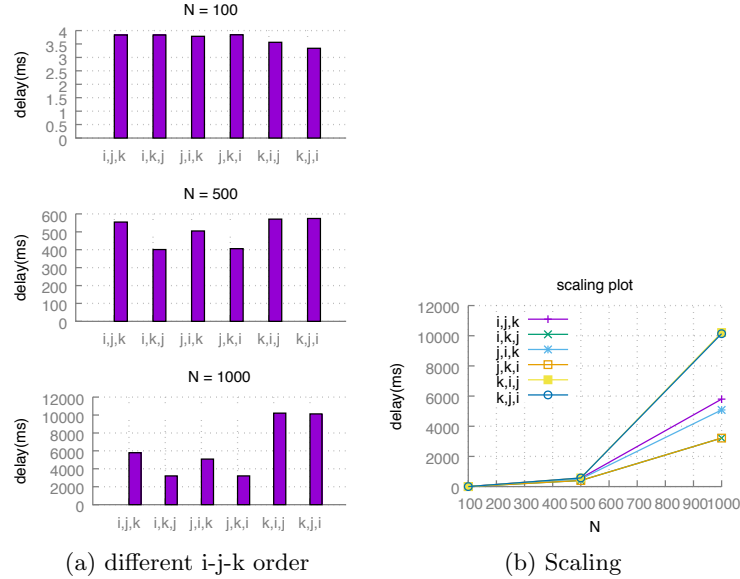


Figure 1: The same cup of coffee. Two times.