ME766-Assignment3

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1. Specifications of Computer :

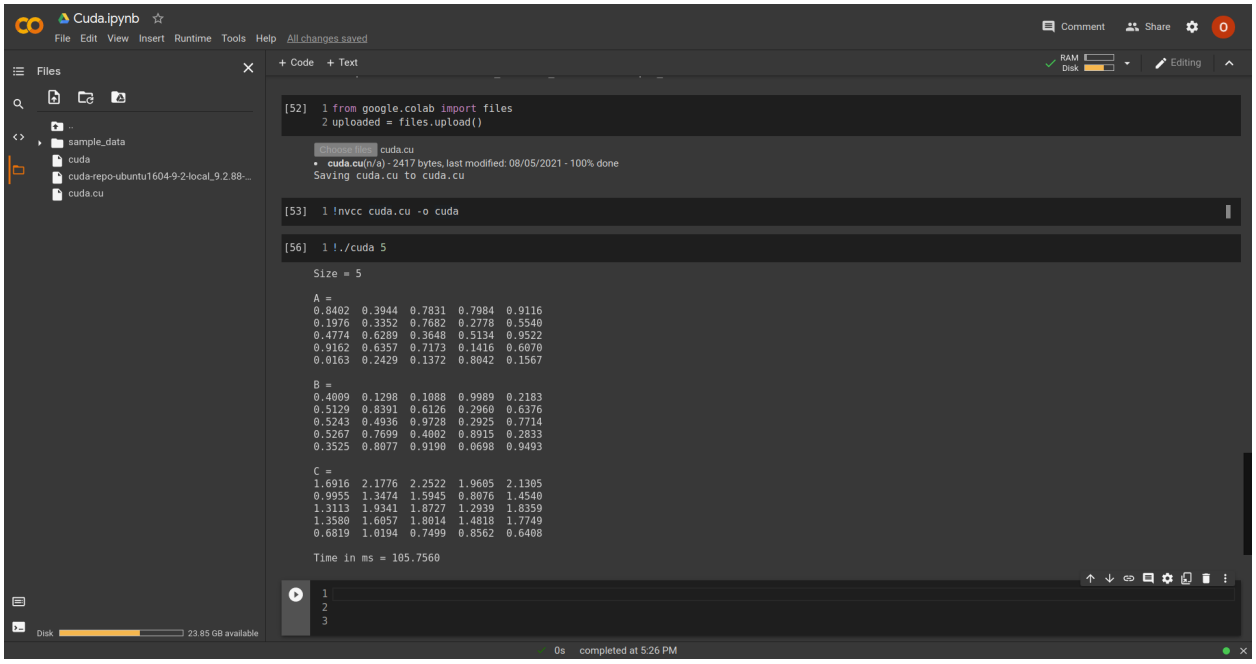
This code is compiled and executed on Google Colab.
The configuration of the Google Colab is as follows:
GPU : NVIDIA Tesla P100-PCIE-16GB
Memory (RAM) : 13 GB
Available Disk Space : 23.85 GB
Processor : Intel(R) Xeon(R) CPU @ 2.00GHz
Cores per socket : 1
Threads per core : 2

2. Code, Compilation and Execution :

The code for this assignment is written in CUDA.
The code is written in file cuda.cu
To compile and run the file in Ubuntu terminal, run the following:
To compile the file in Ubuntu terminal use command : nvcc cuda.cu -o cuda
To execute the file use command : ./cuda #size
#size refers to the size of the matrix which is passed as a command line argument.

3. Sample Output :

The code is compiled and executed on Google Colab and here is the screenshot :



4. Observations

Size of Matrix(N)	Time in ms
100	100.0231
200	103.7848
500	105.5848
1000	108.8939
1500	131.5835
2000	164.223
2500	224.4236
3000	288.3974
3500	407.7096
4000	516.7551
4500	732.1319
5000	906.0745
5500	1225.2882
6000	1434.5784
6500	1932.7528
7000	2228.5368
7500	2871.4401
8000	3165.4655
8500	4116.8001
9000	4530.4619
9500	5658.7367
10000	6012.2256

5. Directory Structure:

160050012/
├──cuda.cu
├── report.pdf