PDC Project Report

By:

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19I-1708

BS (AI)-K

Laptop Specification:

Hassan Ashfaq i191708

Processor Model	Core i7-4500U
No. of Cores	2
Level 1 Cache	128KB
Level 2 Cache	512KB
Clock Frequency	1.80 GHz

I implemented All the Questions, as per the instructions given in Project Document. I designed and code that my Code can multiple N number of Matrixes, which will be given in text file.

I used

- 2D Pointers
- 1D & 2D Vector

& create a generic program that slip matrix into N number of Slaves. The Result will be send back from each Slave process to master process. In Master Process, then combine the result from N slaves and Add it into 2D Pointer Array for Next iteration.

Like

- R = A*B
- R1 = R*C
- & So On.

The Result will be store on 2D Pointer Array and the Result Coordinates will also be store on 2D Vector. 2D Vector that Store All Coordinates will be Updated in Each Iteration in which two matrix result will be store on 2D pointer Array.

From Q1 to Q3, use the same approach and Also Optimal Order of Multiplication will also be found before Multiplication. Q1 did not split the Matrix because it is a serial Multiplication Code. But the Storing of Result & New Coordinate into 2D vector remain the same.

In Q3, we have to implement the Strassen's Matrix Multiplication. The Code that is provided by Sir is not Working. Also Mention This Under Project Tab. Sir Response:

"Please mention any assumptions you are making in the evaluation list"

Strassen's Matrix Multiplication can only be achieve using recursion and recursion cannot be paralyzed. The Reason been that Strassen's Method require 8 Matrix from A to H. Each Matrix in depended on 7 Equation & 7 remain Matrix to calculate the Accurate Result.

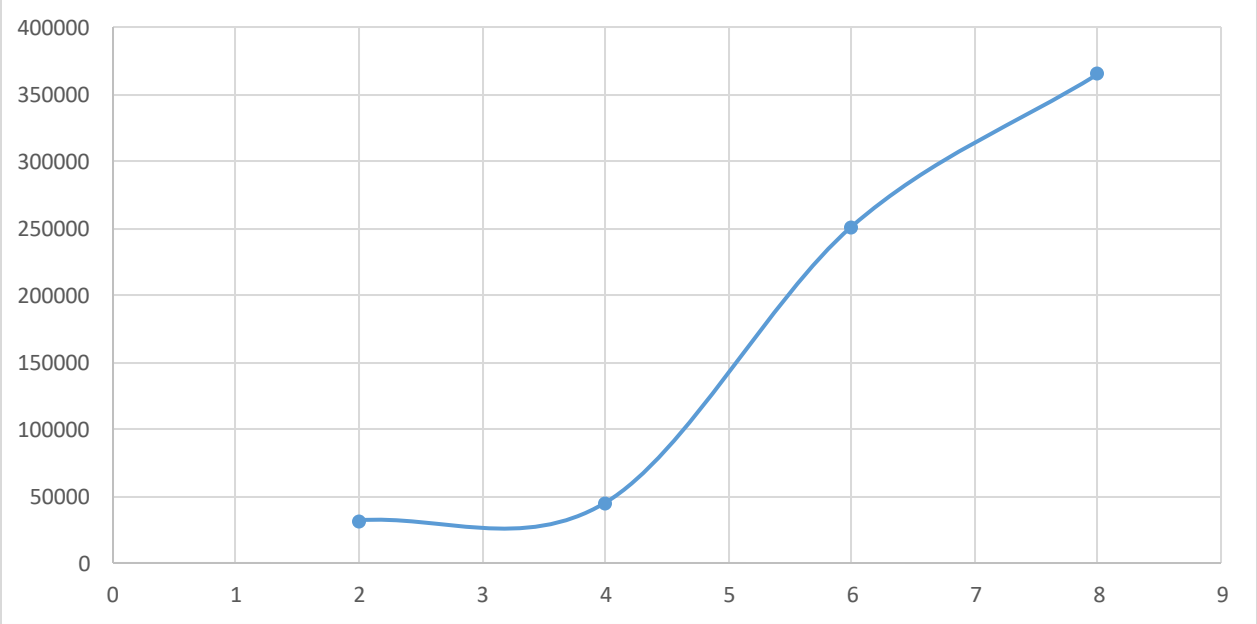
I also discussed this with Our Courses Teacher Mam Humera Sabir & She Agree with me that it is very difficult to be paralyzed. The Code that is Provide not working and the approach he is using is not efficient (As Much I understand that Code).

I implemented Q3 using 2 Process Logic, Master Process Send Matrix A and Matric B to Slave Process. Slave Process perform Strassen's Method and return the result.

Graph:

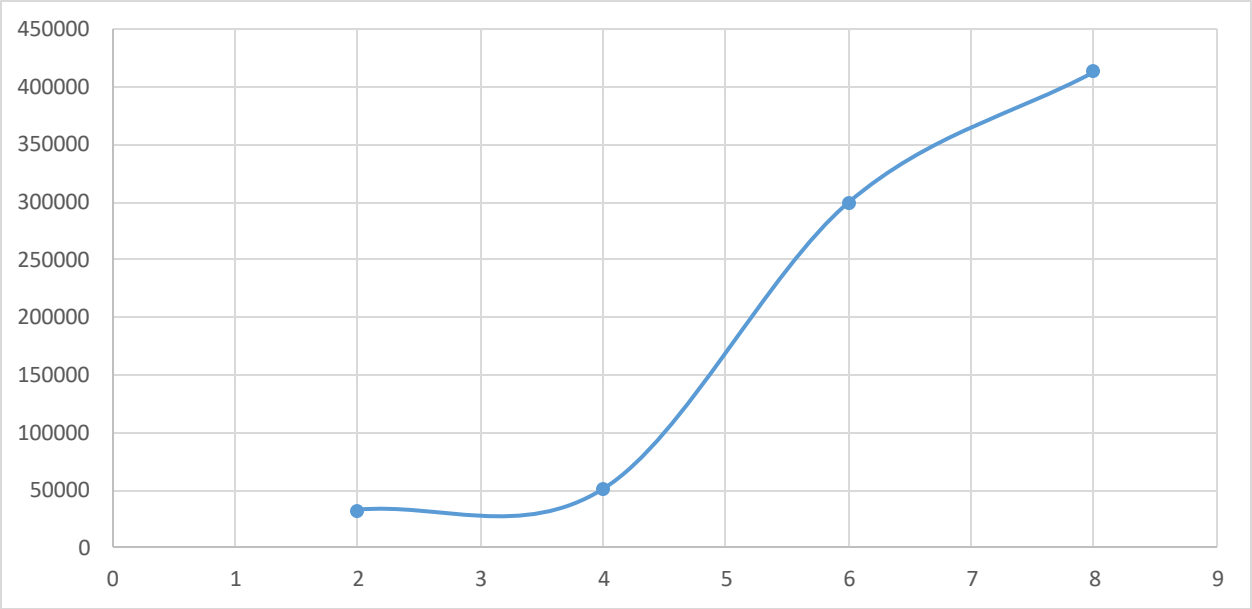
Q 2A

No of processes	Machine 1	Machine 2
2	**31901**	
4	**44786**	
6	**251423**	
8	**365726**	



Q 2B

No of processes	Machine 1	Machine 2
2	**32687**	
4	**50807**	
6	**299993**	
8	**413338**	



Q3.

No of processes	Machine 1	Machine 2
2	**789911**	
4	**1105429**	
6	**1439132**	
8	**1824213**