Hi Professor,

I have tried to solve a problem and try to achieve enough overlapping on computation and calculation between 2 processes. I solved this problem in 2 ways – Using Non-Blocking Synchronous method for sending-receiving data and other way is – I make changes at code level, I tried to get that processes synchronously by updating their send and receive process. I have attached both the files in blackboard with their screenshots.

In 1st File, I used Non-blocking Synchronous Send Mode to share data from one process to other process. If we used that method in code, then we will be able to achieve 2 things – first, whenever 2nd process receives data, it will indicate our 1st process that buffer is ready to use for next task, so 1st process will be able to start to work on his/her next task. And, second, receiving process (2nd Process) has started receiving the data simultaneously. So, in this way, our both processes will work parallel and we will able to achieve overlapping in those 2 processes.

In 2nd File I didn’t used any other mode, I used only non-blocking standard methods but, here I changed the way of sending and receiving data for both process. Now, 1st process generates data for 1strow and immediately sent to the 2nd process for calculation. When 2nd process is receiving those data, 1st process will wait to get buffer ready to use. Once buffer gets ready, 1st process will start to work on generating 2nd row data and simultaneously, our 2nd process will work on calculation for 1st row data. Once calculation is finished by 2nd row data, it will send back to 1st process. And, this will goes on, till our loop is not finished.

While compiling code, I observed some Total Execution Time changes within my code and professor code. I am sharing my observation here –

1) Total Time for My Code - 0.012001 seconds

Total Time for Professor Code - 0.012613 seconds

Time Difference is - 0.000612 seconds

2) Total Time for My Code - 0.007951 seconds

Total Time for Professor Code - 0.009202 seconds

Time Difference is - 0.001251 seconds

When I run my program, I observed that my code takes less time to execute than Professor Code (only difference of milliseconds)

I have tried very hard to find work around of professor problem. It looks simple, but forced us to think on it. Thanks for giving this kind of problem. If my solution is not able to follow as per your constraints, please share solution to us. It will helps us a lot.

Thanks,

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