COMPUTAÇÃO EM LARGA ESCALA

MPI

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GENERAL PROBLEM 1

- In this problem, we are presentend with a list of files and should iterate over the data to count the number of vowels per word, categorized by the word length.

- The function that does this is called “process”.

GENERAL PROBLEM I

- The performance, using the target files provided, is as follows:

Nr. of Workers	1	2	3
1st run	0.010777	0.005592	0.005471
2nd run	0.012906	0.008135	0.007250
3rd run	0.007799	0.016846	0.004725

GENERAL PROBLEM 2

- In this problem, we are presented with a list of files containing signals. The goal is to retrieve the signals, pair them and calculate the circular cross-correlation of the pair. This result shall be compared to the ones saved in the same file and the diferences pointed out.

- The function that produces the results is called “circularCrossCorrelation” and the one that finds diferences is called “printResults”.

GENERAL PROBLEM 2

- The performance, using the targets file provided, is as follows:

Nr. of Workers	1	2	3
1st run	58.648032	35.658497	25.215674
2nd run	58.854143	33.411551	24.419160
3rd run	58.983037	32.881529	24.028739

CONCLUSIONS

- The use of MPI may not always be beneficial. Of course, on the flip side, some jobs gain a lot when it is well implemented.

- There should be a previous analysis, accounting the expected processing times and the time lost in transmission of data, to evaluate the use of MPI.