

Github repository with your code (complete URL):<https://github.com/hemidyanae/HPCToolProject>

	icc (18.0.1)	gcc (8.1.0)
No opt.	Params: -O0 -o Exec time(small): 1.093s Exec time(medium):1.815s Exec time(large):3.615s	Params: -O0 -o Exec time(small): 0.977s Exec time(medium): 1.706s Exec time(large): 2.731s
Opt level 1	Params:-O1 -o Exec time(small):1.195s Exec time(medium):1.780s Exec time(large):2.266s	Params: -O1 -o Exec time(small): 1.246 s Exec time(medium): 1.646s Exec time(large): 2.498s
Opt level 2 + specific arch	Params: -O2 -o Exec time(small):0.890s Exec time(medium):0.987s Exec time(large):1.419s	Params: -O2 -o Exec time(small): 1.059s Exec time(medium): 1.113s Exec time(large): 1.881s
Opt level 3 + specific arch	Params: -O3 -o Exec time(small):1.163s Exec time(medium):1.362s Exec time(large):2.133s	Params: -O3 -o Exec time(small): 1.126s Exec time(medium): 1.032s Exec time(large): 1.677s
Opt level fast + specific arch	Params: -Ofast -o Exec time(small): 1.165s Exec time(medium): 1.690s Exec time(large): 2.104s	Params: -Ofast -o Exec time(small):0.937 s Exec time(medium):1.147 s Exec time(large): 2.104s
Opt level fast + specifig arch + ipo (icc) / -fipa-pta (gcc)	Params: -Ofast -ipo Exec time(small):1.105s Exec time(medium):1.301s Exec time(large):2.046s	Params: -Ofast -fipa-pta Exec time(small): 0.861 s Exec time(medium): 1.449s Exec time(large): 1.518 s
Previous opts + pgo	Params: Exec time(small): 0.945 s Exec time(medium):1.031 s Exec time(large): 1.585 s	Params: -Ofast -pg Exec time(small): 0.879 s Exec time(medium): 1.060 s Exec time(large): 1.619 s
Small :100 medium:200 large:500		

Description and relevant information extracted from the results:

Because of my code, I prefer having a decomposition/resolution which work, than a sort of code which I am not sure to have a perfect code. I tried to change the size of the variables. For example, I tried the static double `[][]` more than `float[][]`. But the fact I did not arrive to have a correct execution force me to keep the code. For that, I decided to make my work on three size of matrix. The small 100, the medium 200, and the large 500 are my matrices tests. I know that I will have difficulties to exploit my results because of the little delay of my execution times.

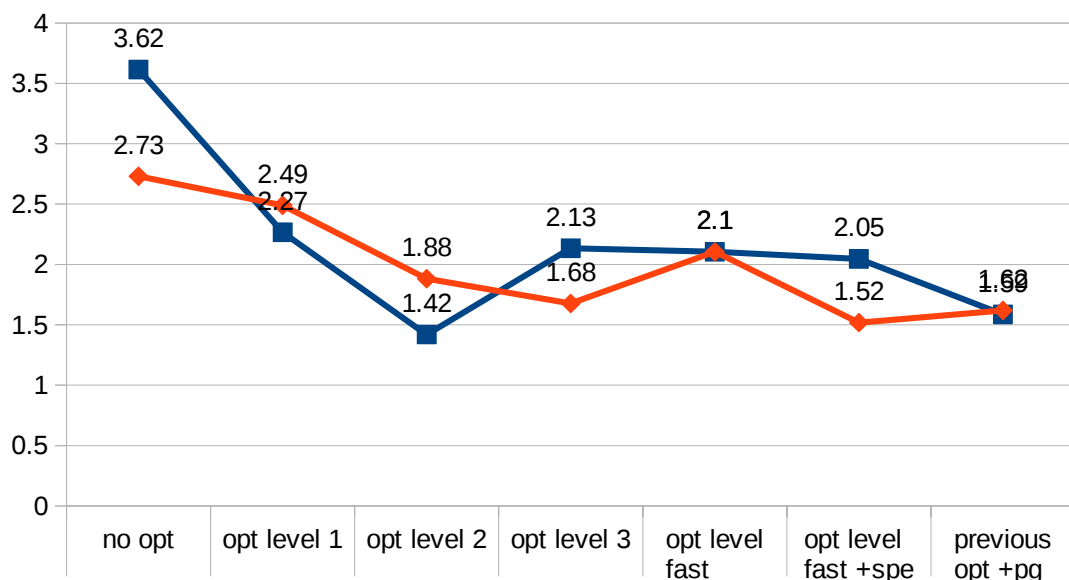
That is why, I am focus on charts which are more explainable, than little figures. The conclusion about all executions of the code, is to see the fact that from the `-opt2` my results are almost the same. It do not change a lot. My biggest evolution is about no opt, opt level1, to opt level 2.

Then to compare `icc` and `gcc`, it possible to see a difference. `Gcc` seems more efficient than `icc` in general. To illustrate this difference I choose 2 way :

Blue : ICC

Orange : GCC

for a large matrix



for a small matrix

