Lab8

Environment

- CPU:AMD Ryzen 7 6800H with Radeon Graphics

- Cores:8

- 频率:3.2GHz

- avx指令集版本:avx2

- 内存:16GB

CPU GFLOPS

- $GFLOPS = 8 * 3.2 * 4 * 2 * 2 = 409.6$

Software environment

- OS:5.15.153.1-microsoft-standard-WSL2

- Open MPI:4.1.2

Parameter optimize

- N值的选择:$N_s^2 * 8 = 1024 * 1024 * 1024 * 14 * 1 * 0.8$
  - 得到$N_s = 38771$
- NBs的选择:从32,64,128,256,512中选择
  - 512
- P与Q:由于环境问题,选择1,1

Result

$GFLOPS_{max} = 279.87$
$\gamma = \frac{279.87}{409.6} * 100\% = 68.33\%$

```
--------------------------------------------------------------------------------
||Ax-b||_oo/(eps*(||A||_oo*||x||_oo+||b||_oo)*N)=    2.11099143e-03 ...... PASSED
================================================================================
T/V                N    NB     P     Q               Time                Gflops
--------------------------------------------------------------------------------
WR00C2L4         35000   512    1     1              102.14             2.7987e+02
```