

总结

上午程设A课堂上，完成了project0的程序，那时候1s只能跑100左右，困难主要在进制转换和int只用在二进制单位运算上面，耗时也主要分布在上面，打算下午优化。

```
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ time ./a
real    0m0.865s
user    0m0.864s
sys     0m0.000s
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ diff pi.out standard10K.out
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$
```

```
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ time ./a
real    1m28.490s
user    1m28.400s
sys     0m0.036s
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ diff pi.out standard10K.out
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$
```

以上是我project1跑分结果，看样子跟柱爷还差得远，下午我采用了压位、开O2编译等优化手段，但由于时间关系，没来得及进一步优化，先存档。

```
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ time ./a
real    0m0.529s
user    0m0.528s
sys     0m0.000s
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ diff pi.out standard10K.out
```

```
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ time ./a
real    0m52.995s
user    0m52.860s
sys     0m0.044s
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ diff pi.out standard10K.out
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$
```

以上为晚上进行成果，对于串行代码热点优化，主要在于将求和部分合并了，以及用位运算代替了取模运算等，首次突破100K数据1min。后面比拼并行计算能力。希望能赶上柱爷成绩~~~

```
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ time mpirun -np 4 ./a
real    0m18.652s
user    1m44.444s
sys     0m1.632s
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$ diff pi.out standard10K.out
emengdeath@emengdeath-virtual-machine:~/Desktop/c2018/level2/PI$
```

次日早上，多线程和多进程优化100K数据进入20s，热点变为最后进制转换的多次2的除法里面，希望下午能完成，匆忙记一波。