

Result

```
N: 16777216, block num: 32768
result from Kernel1 with sum on CPU side: 4194060.750000
kernel 1 execution time: 5.030208 milliseconds

result from Kernel2 with sum on GPU side: 4194060.750000
kernel 2 execution time: 4.670528 milliseconds
```

```
N: 16777216, block num: 32768
==38214== NVPROF is profiling process 38214, command: ./a.out
result from Kernel1 with sum on CPU side: 4194060.750000
kernel 1 execution time: 5.815776 milliseconds

result from Kernel2 with sum on GPU side: 4194060.750000
kernel 2 execution time: 5.036736 milliseconds

==38214== Profiling application: ./a.out
==38214== Profiling result:
Time(%)    Time      Calls      Avg      Min      Max      Name
80.22%    38.660ms        3  12.887ms   896ns  19.339ms  [CUDA memcpy HtoD]
 9.88%    4.7590ms        1  4.7590ms  4.7590ms  4.7590ms  kernel1(float*, float*, float*,
int)
 9.86%    4.7508ms        1  4.7508ms  4.7508ms  4.7508ms  kernel2WithAtomicOp(float*, flo
at*, float*, int)
 0.05%    22.176us        2  11.088us  1.7280us  20.448us  [CUDA memcpy DtoH]

==38214== API calls:
Time(%)    Time      Calls      Avg      Min      Max      Name
79.33%    254.61ms        2  127.30ms  1.3530us  254.61ms  cudaEventCreate
15.35%    49.268ms        5   9.8536ms  161.99us  19.631ms  cudaMemcpy
 4.35%    13.949ms        4   3.4873ms  11.624us  6.8647ms  cudaFree
 0.44%    1.4185ms        2   709.24us  29.203us  1.3893ms  cudaLaunchKernel
 0.20%    627.48us        4   156.87us  5.8190us  264.54us  cudaMalloc
 0.18%    567.78us       196   2.8960us   154ns   108.65us  cuDeviceGetAttribute
 0.13%    408.71us        2   204.35us  199.23us  209.48us  cuDeviceTotalMem
 0.02%    60.505us        2   30.252us  21.592us  38.913us  cuDeviceGetName
 0.01%    24.809us        4    6.2020us  4.0260us  8.4990us  cudaEventRecord
 0.00%    8.9480us        2   4.4740us  3.0490us  5.8990us  cudaEventSynchronize
 0.00%    5.3060us        2    2.6530us  2.0220us  3.2840us  cudaEventElapsedTime
 0.00%    3.7230us        2    1.8610us   954ns   2.7690us  cudaEventDestroy
 0.00%    2.4980us        3      832ns   143ns   1.6510us  cuDeviceGetCount
 0.00%    2.3070us        6      384ns   213ns    676ns   cuDeviceGet
 0.00%      539ns        2      269ns   213ns    326ns
```