CUDA – Matrix Add Example

```
__global__ void add( int* a, int* b, int* c) {
  int col = threadIdx.x + blockIdx.x * blockDim.x;
  int row = threadIdx.y + blockIdx.y * blockDim.y;
  int index = col + row * N;

  if (col < N && row < N)
    c[index] = a[index] + b[index];
}
```

```
#define N 2100
#define THREADS_PER_BLOCK 32

int main() {

  ...
  dim3 dimBlock(THREADS_PER_BLOCK, THREADS_PER_BLOCK);
  dim3 dimGrid((int)ceil(N/dimBlock.x),
               (int)ceil(N/dimBlock.y));

  add<<<dimGrid, dimBlock>>>(d_a, d_b, d_c);
  ...

}
```