```
// GPU function that adds two vectors
__global__ void vector_add(float *a, float *b,
          float *out, int n)
{

  int i = blockIdx.x * blockDim.x * blockDim.y +
    threadIdx.y * blockDim.x + threadIdx.x;
  // Allow the   threads only within the size of N
  if(i < n)
    {
      out[i] = a[i] + b[i];
    }

  // Synchronice all the threads
  __syncthreads();
}
```