

## HW5: Array Reduction

1. The way the code is written, first call to `syncthreads()` is made when all threads read and add data from global memory and store the result into shared memory. This with `jump = 512`. Next, inside the loop, `jump` starts from 256 and goes down to 1. So 9 calls to `syncthreads()` are made. In total, block does `syncthreads()` **10 times**.
2. As long as `jump >= 32`, there is no thread divergence within a warp. So for all the iteration from `jump = 16` to 1, there will be thread divergence. So all **5 warps** which are executed in last 5 iterations will suffer from it.