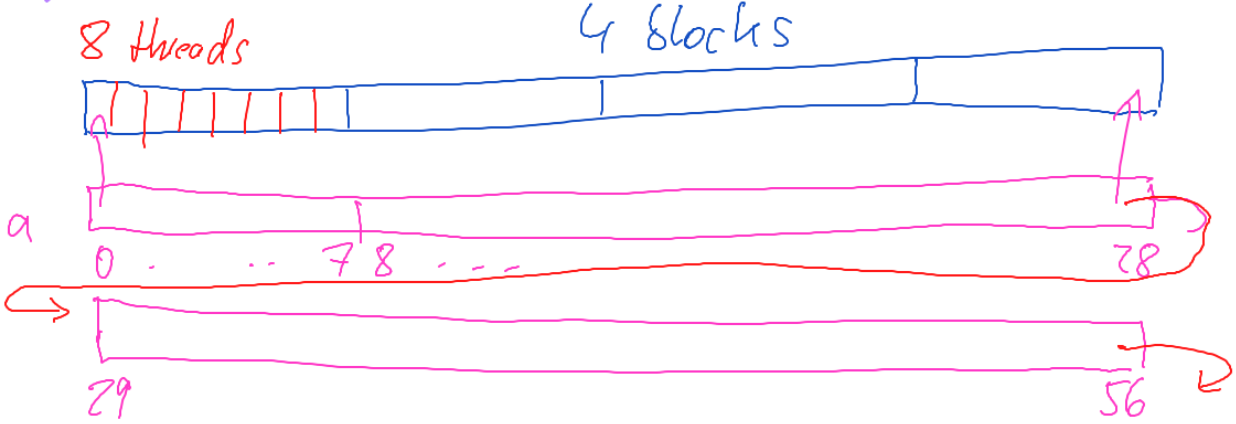
„Fat threads" dot-perfect.cu



Every thread has one vector element („thin thread")

a, b

Round Robin

Several times

Every thread has a couple of vector elements

→ direction of „fat threads" (more work on every thread)

Completely „fat threads" doh-perfect.cu

Use only small number of blocks, give many elements of vector to every thread

80 blocks V100

Vector 8 million elements

- round robin ||
- block wise ||

every block has 5120/80=64 physical thread processors

we use 1024 logical threads per block!!!

80 blocks, each has 1024 threads ⇒

Total ~ 80.000 threads!

Every thread has 100 vector elements!

imin function?

$$n = \text{imin}\left(\text{blocks}, \frac{N + \text{threadsperblock} - 1}{\text{threadsperblock}}\right)$$

- $N >> \text{threadsperblock} \Rightarrow n = \text{blocks}$
- $N < \text{threadsperblock} \Rightarrow n < \text{blocks}$

Step 1: $sum = \sum \vec{a}_i b_i$

Step 2: Tree based summation