Recap: SIMD Vectorization

- Midgard GPUs use SIMD vectorization
  - One thread at a time executes in each pipeline stage
  - Each thread must fill the width of the hardware

- Sensitive to shader code
  - Code always evolving
  - Compiler vectorization is not perfect
  - Have to detect combinations of operations which can be merged to fill idle lanes
  - Scalar operations can not always be merged into vectors