Architectural speed ups

* Cache associativity ( when stride is 512 1024 it is slow)
* Branch prediction
* False sharing
* Prefetch
* Simd
* Spatial locality

A screenshot of a computer

Description automatically generated

A screen shot of a computer screen

Description automatically generated with low confidence

A screenshot of a computer

Description automatically generated with medium confidence

A picture containing text, screenshot, font

Description automatically generated

A screen shot of a computer

Description automatically generated with low confidence

A screen shot of a computer

Description automatically generated with medium confidence

A picture containing text, font, screenshot, graphics

Description automatically generated

A screen shot of a computer code

Description automatically generated with low confidence

g++ -mavx -std=c++11 simd.cpp

Cache associativity

speed ups

A picture containing text, font, screenshot

Description automatically generated

Branch prediction (Failed to fix )

False sharing (did fix )

Prefetch (did not fix )

* Simd (did it)
* Spatial locality (wow faster then me )

A screen shot of a computer code

Description automatically generated with low confidence