Integration

By computing the area under a curve
Single thread with a loop to compute the area of each trapezoid.

Integral from 0 to $\pi$ of $\sin(x)dx = 2.0$

Computed Integral: 1.896
Computed Integral: 1.974
Computed Integral: 1.998

32 trapezoids
Computed Integral: 1.999998

1024 trapezoids

Computed Integral: 1.999998
1 thread looping to add 1024 trapezoids
2 threads
equal chunks
4 threads
equal chunks
4 threads    16 trapezoids    chunks of 1
2 threads, 1024 trapezoids, chunks of 1
4 threads, 1024 trapezoids, chunks of 1
Integral of sine from 0 to 3.14159 using Rectangles
Integral of sine from 0 to 3.14159 using Rectangles

1024 trapezoids

Computed Integral: 2.000001
Integral of sine from 0 to 3.14159 using Rectangles
Integral of sine from 0 to 3.14159 using Rectangles
Integral of sine from 0 to 3.14159 using Trapezoids