Running with 1 threads: Approximation of PI took 12.278 seconds with 1 threads - value: 3.1415790800 Approximation of PI took 12.245 seconds with 1 threads - value: 3.1415790800 Approximation of PI took 12.373 seconds with 1 threads - value: 3.1415790800 Running with 2 threads: Approximation of PI took 6.143 seconds with 2 threads - value: 3.1415909829 Approximation of PI took 24.877 seconds with 2 threads - value: 3.1415909829 Approximation of PI took 6.171 seconds with 2 threads - value: 3.1415909829 Running with 4 threads: Approximation of PI took 3.100 seconds with 4 threads - value: 3.1415605314 Approximation of PI took 23.916 seconds with 4 threads - value: 3.1415605314 Approximation of PI took 3.105 seconds with 4 threads - value: 3.1415605314 Running with 6 threads: Approximation of PI took 2.133 seconds with 6 threads - value: 3.1415958743 Approximation of PI took 14.157 seconds with 6 threads - value: 3.1415958743 Approximation of PI took 2.151 seconds with 6 threads - value: 3.1415958743 Running with 8 threads: Approximation of PI took 1.613 seconds with 8 threads - value: 3.1415986914 Approximation of PI took 13.405 seconds with 8 threads - value: 3.1415986914 Approximation of PI took 1.637 seconds with 8 threads - value: 3.1415986914 Running with 10 threads: Approximation of PI took 1.281 seconds with 10 threads - value: 3.1415993543 Approximation of PI took 14.141 seconds with 10 threads - value: 3.1415993543 Approximation of PI took 1.291 seconds with 10 threads - value: 3.1415993543 Running with 12 threads: Approximation of PI took 1.070 seconds with 12 threads - value: 3.1415694114 Approximation of PI took 13.511 seconds with 12 threads - value: 3.1415694114 Approximation of PI took 1.092 seconds with 12 threads - value: 3.1415694114

Running with 1 threads (optimized): Approximation of PI took 10.864 seconds with 1 threads - value: 3.1415790800 Approximation of PI took 11.036 seconds with 1 threads - value: 3.1415790800 Approximation of PI took 11.004 seconds with 1 threads - value: 3.1415790800 Running with 2 threads (optimized): Approximation of PI took 5.434 seconds with 2 threads - value: 3.1415909829 Approximation of PI took 7.780 seconds with 2 threads - value: 3.1415909829 Approximation of PI took 5.513 seconds with 2 threads - value: 3.1415909829 Running with 4 threads (optimized): Approximation of PI took 2.750 seconds with 4 threads - value: 3.1415605314 Approximation of PI took 20.316 seconds with 4 threads - value: 3.1415605314 Approximation of PI took 2.774 seconds with 4 threads - value: 3.1415605314 Running with 6 threads (optimized): Approximation of PI took 1.885 seconds with 6 threads - value: 3.1415958743 Approximation of PI took 16.411 seconds with 6 threads - value: 3.1415958743 Approximation of PI took 1.928 seconds with 6 threads - value: 3.1415958743 Running with 8 threads (optimized): Approximation of PI took 1.422 seconds with 8 threads - value: 3.1415986914 Approximation of PI took 12.854 seconds with 8 threads - value: 3.1415986914 Approximation of PI took 1.512 seconds with 8 threads - value: 3.1415986914 Running with 10 threads (optimized): Approximation of PI took 1.131 seconds with 10 threads - value: 3.1415993543 Approximation of PI took 10.835 seconds with 10 threads - value: 3.141599354 Approximation of PI took 1.154 seconds with 10 threads - value: 3.1415993543 Running with 12 threads (optimized): Approximation of PI took 0.944 seconds with 12 threads - value: 3.1415694114 Approximation of PI took 8.484 seconds with 12 threads - value: 3.1415694114 Approximation of PI took 0.969 seconds with 12 threads - value: 3.1415694114

```
8,249,864,373 L1-dcache-loads:u
555,747 L1-dcache-load-misses:u # 0.01% of all L1-dcache accesses
```

1.617040060 seconds time elapsed

0.016774000 seconds sys

Performance counter stats for './monte carlo pi v1 12':

8,799,734,199 L1-dcache-loads:u 278,186,430 L1-dcache-load-misses:u # 3.16% of all L1-dcache accesses

11.102782179 seconds time elapsed

Performance counter stats for './monte carlo pi v2 12':

104.862373000 seconds user 0.037018000 seconds sys

```
8,799,641,900 L1-dcache-loads:u
306,098 L1-dcache-load-misses:u # 0.00% of all L1-dcache accesses
```

2.380278775 seconds time elapsed
16.358492000 seconds user

0.004892000 seconds sys

Performance counter stats for './monte carlo pi v3 12':