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Monte Carlo Pi Estimation - Hybrid MPI+OpenMP
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Total points: 1000000 - 1 Milhão de pontos

MPI processes: 6

OpenMP threads per process: 12

Total parallel workers: 72

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Results:

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```

Estimated π: 3.141600000000000

Actual π: 3.141592653589793

Absolute error: 0.000007346410207

Relative error: 0.0002338435%

Points inside: 785400

Total points: 1000000

Execution time: 0.036727 seconds

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Monte Carlo Pi Estimation - Hybrid MPI+OpenMP
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Total points: 100000000 - 100 Milhões de pontos

MPI processes: 6

OpenMP threads per process: 12

Total parallel workers: 72

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Results:

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```

Estimated π: 3.141746280000000

Actual π: 3.141592653589793

Absolute error: 0.000153626410207

Relative error: 0.0048900805%

Points inside: 78543657

Total points: 100000000

Execution time: 0.102391 seconds

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Monte Carlo Pi Estimation - Hybrid MPI+OpenMP
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Total points: 1000000000 - 1 Bilhão de pontos

MPI processes: 6

OpenMP threads per process: 12

Total parallel workers: 72

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Results:

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```

Estimated π: 3.141514580000000

Actual π: 3.141592653589793

Absolute error: 0.000078073589793

Relative error: 0.0024851595%

Points inside: 785378645

Total points: 1000000000

Execution time: 0.778206 seconds

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Monte Carlo Pi Estimation - Hybrid MPI+OpenMP
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Total points: 10000000000 - 10 Bilhões de pontos

MPI processes: 6

OpenMP threads per process: 12

Total parallel workers: 72

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Results:

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```

Estimated π: 3.141583545200000

Actual π: 3.141592653589793

Absolute error: 0.000009108389793

Relative error: 0.0002899291%

Points inside: 7853958863

Total points: 10000000000

Execution time: 7.085858 seconds

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Monte Carlo Pi Estimation - Hybrid MPI+OpenMP
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Total points: 100000000000 - 100 Bilhões de pontos

MPI processes: 6

OpenMP threads per process: 12

Total parallel workers: 72

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Results:

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```

Estimated π: 3.141588342360000

Actual π: 3.141592653589793

Absolute error: 0.000004311229793

Relative error: 0.0001372307%

Points inside: 78539708559

Total points: 100000000000

Execution time: 71.007269 seconds

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Monte Carlo Pi Estimation - Hybrid MPI+OpenMP
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```

Total points: 1000000000000 - 1 Trilhão de pontos

MPI processes: 6

OpenMP threads per process: 12

Total parallel workers: 72

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Results:

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```

Estimated π: 3.141587665344000

Actual π: 3.141592653589793

Absolute error: 0.000004988245793

Relative error: 0.0001587808%

Points inside: 785396916336

Total points: 1000000000000

Execution time: 731.821819 seconds

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