## Возведение в степень

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **N** | 10 | 0 | 1000 | 10000 | 100000 | 1000000 | 10000000 | 100000000 | 1000000000 | 10000000000 | | |
| **A** | 2 | 123456789 | 1.001 | 1.0001 | 1.00001 | 1.000001 | 1.0000001 | 1.00000001 | 1.000000001 | 1.0000000001 | | |
| **RESULT** | 1024 | 1 | 2.7169239322355985 | 2.7181459268248984 | 2.71826823719229 5 | 2.7182804690959363 | 2.718281694132 0103 | 2.7182817984636 | 2.7182820520118995 | 2.7182820532331595 | | |
| **Итеративный** | 0.456ms | 0,047ms | 0,068ms | 0,668ms | 1.843ms | 0.948ms | 10.031ms | 97.017ms | 946.920ms | 9819.259ms | | |
| **С домножением** | 0.537ms | 0.047ms | 0.055ms | 0.476ms | 1.575ms | 1.419ms | 1.668ms | 33.952ms | 454.616ms | 1394.287ms | | |
| **Разложение показателя степени** | 0.636ms | 0.057ms | 0.084ms | 0.028ms | 0.029ms | 0.027ms | 0.031ms | 0.028ms | 0.032ms | 0.028ms | | |

## Фибоначчи

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **N** | 0 | 1 | 2 | 3 | 4 | 5 | 10 | 100 | 1000 | 10000 | 100000 | 1000000 | 10000000 |
| **RESULT** | 0 | 1 | 1 | 2 | 3 | 5 | 55 | 354224848179261900000 | 4.34665576869374 3e+208 | Infinity | Infinity | Infinity | Infinity |
| **Через рекурсию** | 0.466ms | 0.045ms | 0.028ms | 0.027ms | 0.025ms | 0.025ms | 0.034ms | | | | | | |
| **Через итерацию** | 0.520ms | 0.048ms | 0.029ms | 0.027ms | 0.053ms | 0.047ms | 0.028ms | 0.043ms | 0.051ms | 0.193ms | 2.761ms | 1.280ms | 12.652ms |
| **По формуле золотого сечения** | 0.478ms | 0.297ms | 0.036ms | 0.027ms | 0.027ms | 0.446ms | 0.029ms | 0.028ms | 0.031ms | 0.029ms | 0.063ms | 0.361ms | 3.591ms |
| **Умножение матриц** | 0.544ms | 0.244ms | 0.031ms | 0.028ms | 0.029ms | 0.493ms | 0.030ms | 0.085ms | 0.053ms | 0.039ms | 0.074ms | 0.383ms | 3.477ms |

## Кол-во простых чисел

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **N** | 10 | 1 | 2 | 3 | 4 | 5 | 100 | 1000 | 10000 | 100000 | 1000000 | 10000000 | 100000000 |
| **RESULT** | 4 | 0 | 1 | 2 | 2 | 3 | 25 | 168 | 1229 | 9592 | 78498 | 664579 | 5761455 |
| **Перебор делителей** | 0.533ms | 0.047ms | 0.026ms | 0.028ms | 0.028ms | 0.043ms | 0.128ms | 3.480ms | 163.078ms | 16629.362ms | | | |
| **Оптимизация перебора делителей1** | 0.624ms | 0.048ms | 0.025ms | 0.028ms | 0.027ms | 0.037ms | 0.044ms | 2.181ms | 10.085ms | 774.864ms | | | |
| **Оптимизация перебора делителей2** | 0.624ms | 0.050ms | 0.028ms | 0.030ms | 0.029ms | 0.029ms | 0.036ms | 0.123ms | 3.172ms | 5.971ms | 120.299ms | 3091.637ms | 83690.280ms |
| **Оптимизация перебора делителей3** | 0.750ms | 0.117ms | 0.029ms | 0.057ms | 0.026ms | 0.034ms | 0.036ms | 0.151ms | 2.513ms | 4.583ms | 50.720ms | 1014.159ms | 23324.088ms |
| **Решето Эратосфена O(n log log n)** | 0.547ms | 0.055ms | 0.038ms | 0.027ms | 0.031ms | 0.084ms | 0.042ms | 0.163ms | 3.391ms | 16.064ms | 113.724ms | 1114.332ms | 18088.778ms |
| **Решето Эратосфена O(n)** | 0.673ms | 0.071ms | 0.038ms | 0.033ms | 0.044ms | 0.042ms | 0.059ms | 0.265ms | 4.266ms | 15.712ms | 106.989ms | 1073.989ms | 16359.587ms |