Complexity Analysis Report

Complexity Analysis for `extended_euclidean`

Best Fit Complexity: `Constant: time = 6E-06 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 6E-06 (sec) | 1.6E-10 | | Linear: time = 1E-05 + -4.1E-11*n (sec)* / *8.7E-11* | | *Quadratic: time = 8.1E-06 + -1.5E-16*n^2 (sec) | 1.2E-10 | | Cubic: time = 7.5E-06 + -6.6E-22*n^3 (sec)* / *1.3E-10* | | *Polynomial: time = 4.5E-05* x^-0.2 (sec) | 9.3E-12 | | Logarithmic: time = 2.5E-05 + -1.8E-06*log(n) (sec)* / *9.4E-12* | | *Linearithmic: time = 9.8E-06 + -3.2E-12*n*log(n) (sec)* / *9.2E-11* | | *Exponential: time = 9E-06* 1^n (sec) | 8.5E-11 |

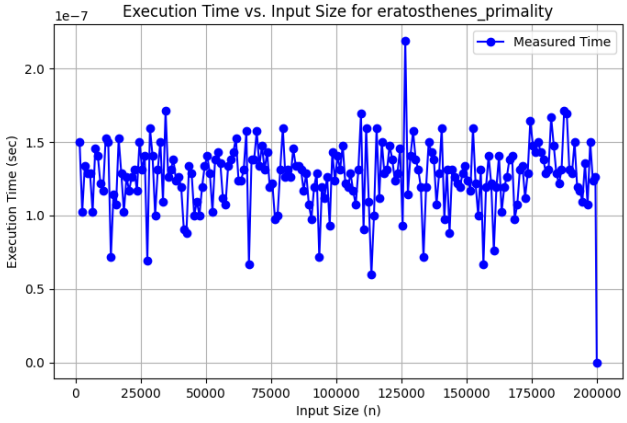
Execution Time vs. Input Size Plot:

Complexity Analysis for `eratosthenes_primality`

Best Fit Complexity: `Constant: time = 1E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 1E-05 (sec) | 4.8E-09 | | Linear: time = 1.8E-06 + 8.5E-11*n (sec)* / *4.5E-09* | | *Quadratic: time = 5.4E-06 + 3.5E-16*n^2 (sec) | 4.6E-09 | | Cubic: time = 7.4E-06 + 1.3E-21*n^3 (sec)* / *4.7E-09* | | *Polynomial: time = 2.8E-06* x^0.025 (sec) | 5.2E-09 | | Logarithmic: time = -2.1E-05 + 2.8E-06*log(n) (sec)* / *4.6E-09* | | *Linearithmic: time = 2.2E-06 + 6.9E-12*n*log(n) (sec)* / *4.5E-09* | | *Exponential: time = 3.8E-06* 1^n (sec) | 5.3E-09 |

Execution Time vs. Input Size Plot:

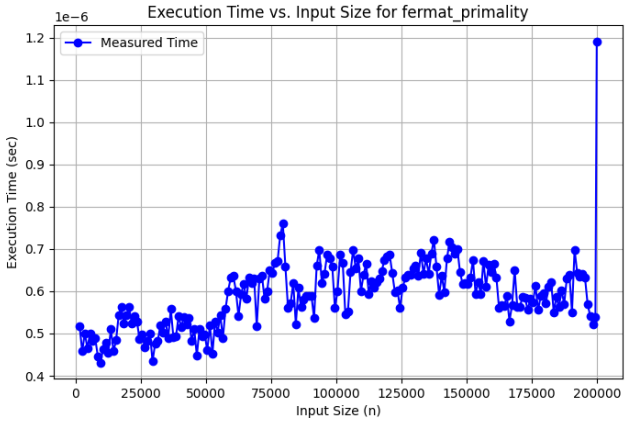


Complexity Analysis for `fermat_primality`

Best Fit Complexity: `Constant: time = 3.4E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————-|———-| | Constant: time = 3.4E-05 (sec) | 3.7E-10 | | Linear: time = 3.8E-05 + -3.9E-11*n (sec)* | *3E-10* | | *Quadratic: time = 3.6E-05 + -1.8E-16*n^2 (sec) | 3.1E-10 | | Cubic: time = 3.6E-05 + -9E-22*n^3 (sec)* | *3.1E-10* | | *Polynomial: time = 5.6E-05* x^-0.047 (sec) | 3.1E-10 | | Logarithmic: time = 5.1E-05 + -1.6E-06*log(n) (sec)* | *3.1E-10* | | *Linearithmic: time = 3.7E-05 + -3.2E-12*n*log(n) (sec)* | *3E-10* | | *Exponential: time = 3.7E-05* 1^n (sec) | 3.1E-10 |

Execution Time vs. Input Size Plot:

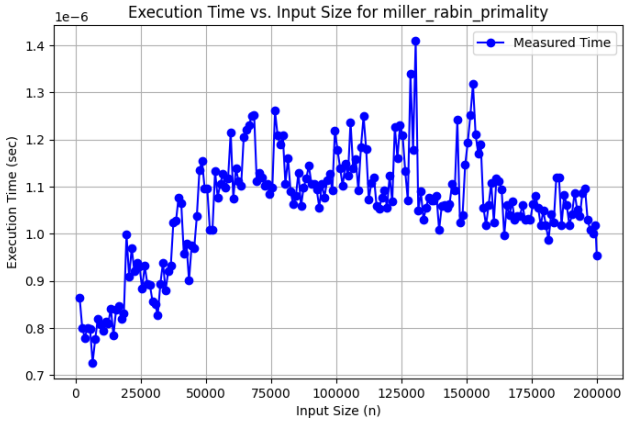


Complexity Analysis for `miller_rabin_primality`

Best Fit Complexity: `Constant: time = 7.2E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 7.2E-05 (sec) | 1.3E-08 | | Linear: time = 6.3E-05 + 9.1E-11*n (sec)* | *1.3E-08* | | *Quadratic: time = 6.9E-05 + 2.1E-16*n^2 (sec) | 1.3E-08 | | Cubic: time = 7.2E-05 + 9.8E-23*n^3 (sec)* | *1.3E-08* | | *Polynomial: time = 3.7E-05* x^0.053 (sec) | 1.3E-08 | | Logarithmic: time = 1.3E-05 + 5.3E-06*log(n) (sec)* | *1.2E-08* | | *Linearithmic: time = 6.4E-05 + 7E-12*n*log(n) (sec)* | *1.3E-08* | | *Exponential: time = 6.2E-05* 1^n (sec) | 1.3E-08 |

Execution Time vs. Input Size Plot:

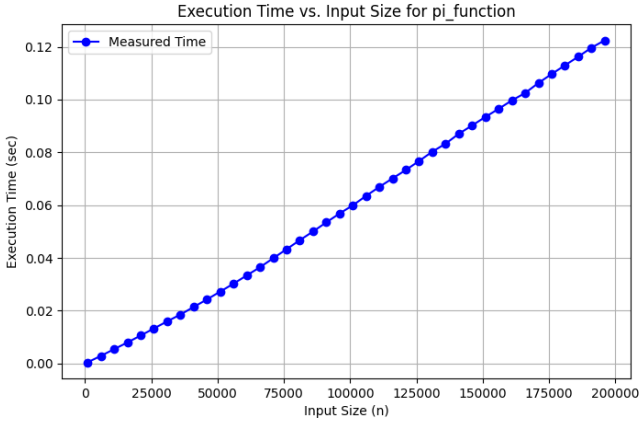


Complexity Analysis for `pi_function`

Best Fit Complexity: `Linearithmic: time = -0.0072 + 5.4E-07*n*log(n) (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 0.63 (sec) | 1.8 | | Linear: time = -0.038 + 6.6E-06*n (sec)* | *0.0026* | | *Quadratic: time = 0.19 + 3.1E-11*n^2 (sec) | 0.1 | | Cubic: time = 0.3 + 1.5E-16*n^3 (sec)* | *0.27* | | *Polynomial: time = 2.6E-06* x^1.1 (sec) | 0.0026 | | Logarithmic: time = -1.8 + 0.22*log(n) (sec)* | *0.65* | | *Linearithmic: time = -0.0072 + 5.4E-07*n*log(n) (sec)* | *0.0004* | | *Exponential: time = 0.042* 1^n (sec) | 2.8 |

Execution Time vs. Input Size Plot:

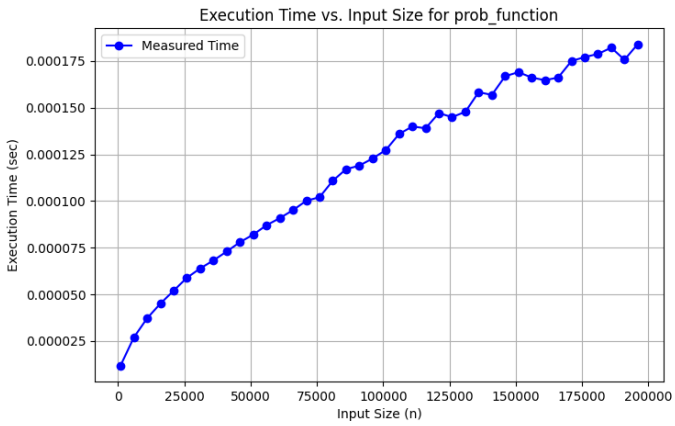


Complexity Analysis for `prob_function`

Best Fit Complexity: `Linear: time = 0.00032 + 8.3E-09*n (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 0.0012 (sec) | 2.9E-06 | | Linear: time = 0.00032 + 8.3E-09*n (sec)* | *7.6E-08* | | *Quadratic: time = 0.00063 + 3.7E-14*n^2 (sec) | 4.7E-07 | | Cubic: time = 0.00077 + 1.7E-19*n^3 (sec)* | *8.1E-07* | | *Polynomial: time = 3E-06* x^0.52 (sec) | 3.9E-08 | | Logarithmic: time = -0.0024 + 0.00032*log(n) (sec)* | *5.6E-07* | | *Linearithmic: time = 0.00036 + 6.7E-10*nlog(n) (sec)* | *1E-07* | | *Exponential: time = 0.00033* 1^n (sec) | 1.1E-06 |

Execution Time vs. Input Size Plot:

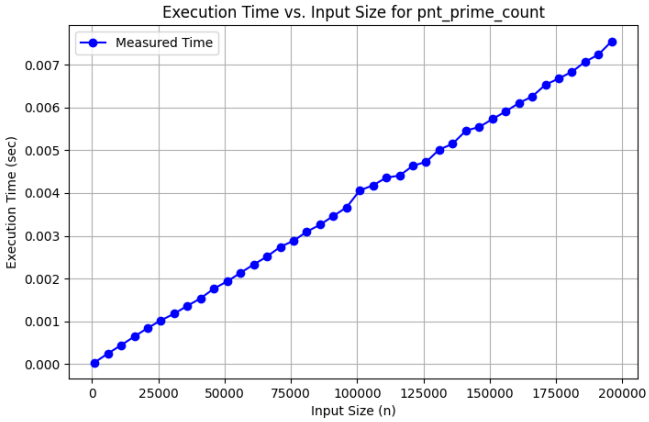


Complexity Analysis for `pnt_prime_count`

Best Fit Complexity: `Linear: time = 0.00097 + 3.8E-07*n (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 0.04 (sec) | 0.006 | | Linear: time = 0.00097 + 3.8E-07*n (sec)* | *8.9E-06* | | *Quadratic: time = 0.015 + 1.8E-12*n^2 (sec) | 0.00048 | | Cubic: time = 0.021 + 8.4E-18*n^3 (sec)* | *0.0011* | | *Polynomial: time = 5.1E-07* x^0.98 (sec) | 1.1E-05 | | Logarithmic: time = -0.11 + 0.013*log(n) (sec)* | *0.0019* | | *Linearithmic: time = 0.0028 + 3.1E-08*n*log(n) (sec)* | *2E-05* | | *Exponential: time = 0.0036* 1^n (sec) | 0.0079 |

Execution Time vs. Input Size Plot:

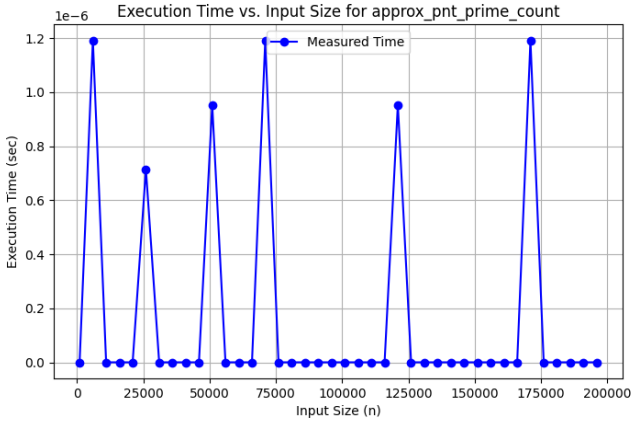


Complexity Analysis for `approx_pnt_prime_count`

Best Fit Complexity: `Constant: time = 1.4E-06 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 1.4E-06 (sec) | 5.4E-12 | | Linear: time = 2.1E-06 + -7E-12*n (sec)* | *3.4E-12* | | *Quadratic: time = 1.8E-06 + -2.5E-17*n^2 (sec) | 4.3E-12 | | Cubic: time = 1.7E-06 + -1.1E-22*n^3 (sec)* | *4.6E-12* | | *Polynomial: time = 1.5E-05* x^-0.22 (sec) | 3E-13 | | Logarithmic: time = 6.5E-06 + -4.6E-07*log(n) (sec)* | *6.2E-13* | | *Linearithmic: time = 2.1E-06 + -5.5E-13*n*log(n) (sec)* | *3.6E-12* | | *Exponential: time = 1.9E-06* 1^n (sec) | 3.4E-12 |

Execution Time vs. Input Size Plot:

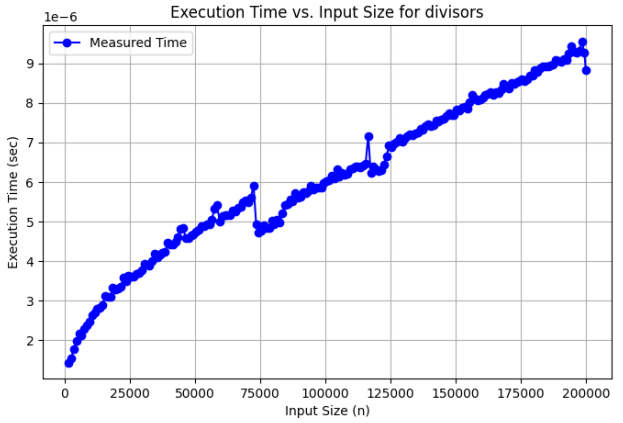


Complexity Analysis for `divisors`

Best Fit Complexity: `Constant: time = 5.9E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————-|———-| | Constant: time = 5.9E-05 (sec) | 7.2E-09 | | Linear: time = 1.7E-05 + 4.2E-10*n (sec)* | *9.3E-11* | | *Quadratic: time = 3.1E-05 + 1.9E-15*n^2 (sec) | 5.8E-10 | | Cubic: time = 3.8E-05 + 9.3E-21*n^3 (sec)* | *1.3E-09* | | *Polynomial: time = 1.3E-06* x^0.34 (sec) | 1.4E-09 | | Logarithmic: time = -0.0001 + 1.5E-05*log(n) (sec)* | *2.5E-09* | | *Linearithmic: time = 1.9E-05 + 3.4E-11*n*log(n) (sec)* | *9.9E-11* | | *Exponential: time = 2.2E-05* 1^n (sec) | 6.1E-10 |

Execution Time vs. Input Size Plot:



Complexity Analysis for `prime_factors`

Best Fit Complexity: `Constant: time = 7.9E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 7.9E-05 (sec) | 1.1E-08 | | Linear: time = 2.8E-05 + 5.1E-10*n (sec)* | *4.3E-10* | | *Quadratic: time = 4.6E-05 + 2.3E-15*n^2 (sec) | 1.3E-09 | | Cubic: time = 5.5E-05 + 1.1E-20*n^3 (sec)* | *2.4E-09* | | *Polynomial: time = 3E-06* x^0.29 (sec) | 2.4E-09 | | Logarithmic: time = -0.00012 + 1.8E-05*log(n) (sec)* | *3.7E-09* | | *Linearithmic: time = 3.1E-05 + 4.1E-11*n*log(n) (sec)* | *4.6E-10* | | *Exponential: time = 3.4E-05* 1^n (sec) | 1.1E-09 |

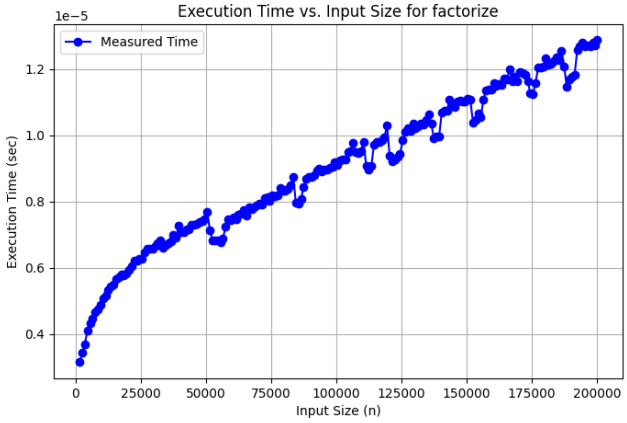
Execution Time vs. Input Size Plot:

Complexity Analysis for `factorize`

Best Fit Complexity: `Constant: time = 8.2E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 8.2E-05 (sec) | 1.1E-08 | | Linear: time = 2.9E-05 + 5.2E-10*n (sec)* | *3.2E-10* | | *Quadratic: time = 4.7E-05 + 2.4E-15*n^2 (sec) | 1E-09 | | Cubic: time = 5.6E-05 + 1.2E-20*n^3 (sec)* | *2.2E-09* | | *Polynomial: time = 4.4E-06* x^0.26 (sec) | 3.3E-09 | | Logarithmic: time = -0.00011 + 1.7E-05*log(n) (sec)* | *4.6E-09* | | *Linearithmic: time = 3.1E-05 + 4.2E-11*n*log(n) (sec)* | *3E-10* | | *Exponential: time = 3.6E-05* 1^n (sec) | 8E-10 |

Execution Time vs. Input Size Plot:

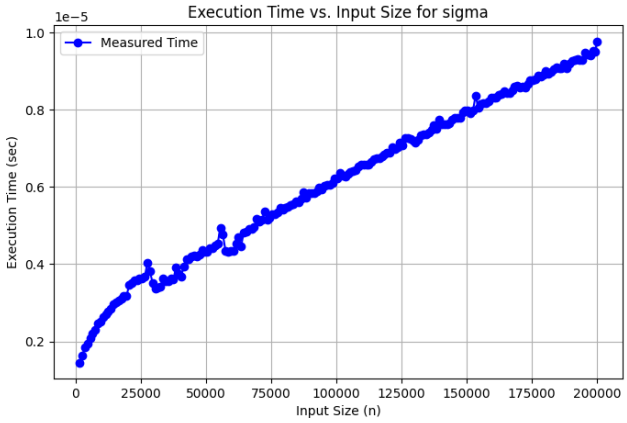


Complexity Analysis for `sigma`

Best Fit Complexity: `Constant: time = 5.5E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————-|———-| | Constant: time = 5.5E-05 (sec) | 5.6E-09 | | Linear: time = 1.8E-05 + 3.7E-10*n (sec)* | *5.5E-11* | | *Quadratic: time = 3.1E-05 + 1.7E-15*n^2 (sec) | 4.8E-10 | | Cubic: time = 3.7E-05 + 8.1E-21*n^3 (sec)* | *1E-09* | | *Polynomial: time = 1.4E-06* x^0.32 (sec) | 9.2E-10 | | Logarithmic: time = -8.9E-05 + 1.3E-05*log(n) (sec)* | *1.7E-09* | | *Linearithmic: time = 2E-05 + 3E-11*n*log(n) (sec)* | *6.8E-11* | | *Exponential: time = 2.2E-05* 1^n (sec) | 4.6E-10 |

Execution Time vs. Input Size Plot:



Complexity Analysis for `sigma_k`

Best Fit Complexity: `Constant: time = 6.8E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 6.8E-05 (sec) | 8.4E-09 | | Linear: time = 2.3E-05 + 4.5E-10*n (sec)* | *2.9E-10* | | *Quadratic: time = 3.8E-05 + 2.1E-15*n^2 (sec) | 6.4E-10 | | Cubic: time = 4.5E-05 + 1E-20*n^3 (sec)* | *1.3E-09* | | *Polynomial: time = 2.7E-06* x^0.28 (sec) | 2.2E-09 | | Logarithmic: time = -9.9E-05 + 1.5E-05*log(n) (sec)* | *3.2E-09* | | *Linearithmic: time = 2.5E-05 + 3.6E-11*n*log(n) (sec)* | *2.8E-10* | | *Exponential: time = 2.9E-05* 1^n (sec) | 4.9E-10 |

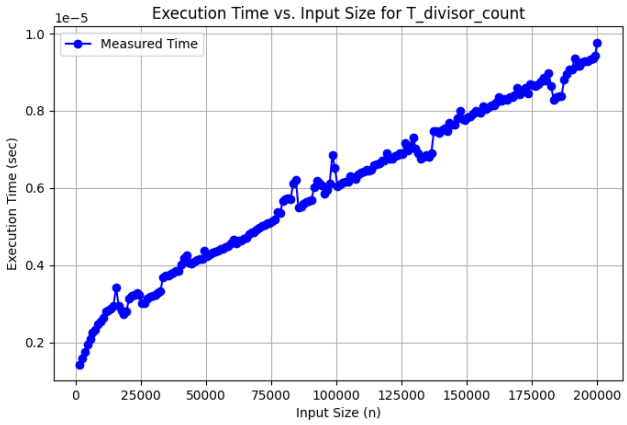
Execution Time vs. Input Size Plot:

Complexity Analysis for `T_divisor_count`

Best Fit Complexity: `Constant: time = 5.9E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 5.9E-05 (sec) | 6.7E-09 | | Linear: time = 1.8E-05 + 4E-10*n (sec)* | *6E-11* | | *Quadratic: time = 3.2E-05 + 1.9E-15*n^2 (sec) | 3.6E-10 | | Cubic: time = 3.8E-05 + 9.2E-21*n^3 (sec)* | *9E-10* | | *Polynomial: time = 1.7E-06* x^0.31 (sec) | 1.4E-09 | | Logarithmic: time = -9.4E-05 + 1.4E-05*log(n) (sec)* | *2.3E-09* | | *Linearithmic: time = 2E-05 + 3.3E-11*n*log(n) (sec)* | *5.2E-11* | | *Exponential: time = 2.4E-05* 1^n (sec) | 2.9E-10 |

Execution Time vs. Input Size Plot:

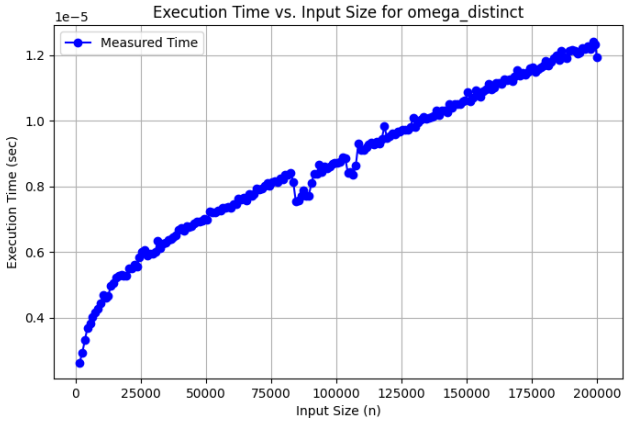


Complexity Analysis for `omega_distinct`

Best Fit Complexity: `Constant: time = 7.6E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 7.6E-05 (sec) | 1E-08 | | Linear: time = 2.6E-05 + 5E-10*n (sec)* / *3.3E-10* | | *Quadratic: time = 4.4E-05 + 2.3E-15*n^2 (sec) | 1.2E-09 | | Cubic: time = 5.2E-05 + 1.1E-20*n^3 (sec)* / *2.4E-09* | | *Polynomial: time = 3.2E-06* x^0.28 (sec) | 2.7E-09 | | Logarithmic: time = -0.00011 + 1.7E-05*log(n) (sec)* / *3.9E-09* | | *Linearithmic: time = 2.8E-05 + 4E-11*n*log(n) (sec)* / *3.4E-10* | | *Exponential: time = 3.3E-05* 1^n (sec) | 1E-09 |

Execution Time vs. Input Size Plot:

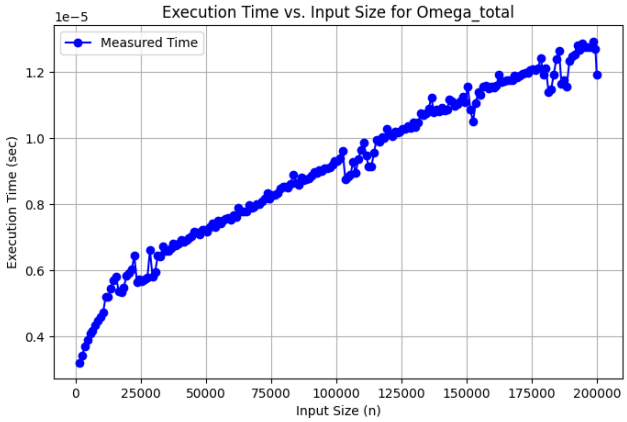


Complexity Analysis for `Omega_total`

Best Fit Complexity: `Constant: time = 8.1E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 8.1E-05 (sec) | 9.3E-09 | | Linear: time = 3.4E-05 + 4.7E-10*n (sec)* | *3.8E-10* | | *Quadratic: time = 5.1E-05 + 2.1E-15*n^2 (sec) | 1.2E-09 | | Cubic: time = 5.8E-05 + 1E-20*n^3 (sec)* | *2.2E-09* | | *Polynomial: time = 4.9E-06* x^0.25 (sec) | 2.3E-09 | | Logarithmic: time = -9.9E-05 + 1.6E-05*log(n) (sec)* | *3.3E-09* | | *Linearithmic: time = 3.6E-05 + 3.8E-11*n*log(n) (sec)* | *4E-10* | | *Exponential: time = 3.9E-05* 1^n (sec) | 9.1E-10 |

Execution Time vs. Input Size Plot:

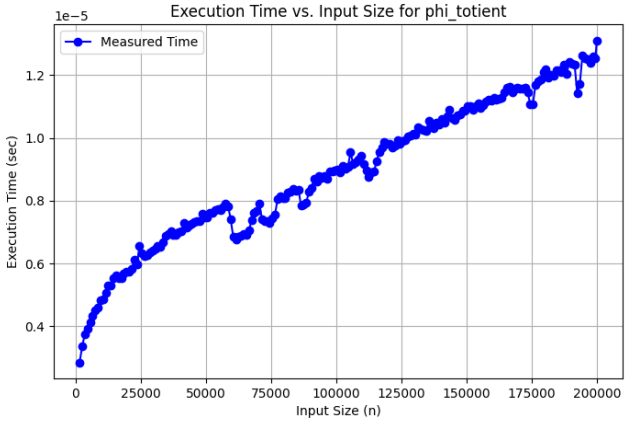


Complexity Analysis for `phi_totient`

Best Fit Complexity: `Constant: time = 8.1E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 8.1E-05 (sec) | 1.1E-08 | | Linear: time = 2.9E-05 + 5.2E-10*n (sec)* | *3.2E-10* | | *Quadratic: time = 4.8E-05 + 2.4E-15*n^2 (sec) | 1.2E-09 | | Cubic: time = 5.6E-05 + 1.1E-20*n^3 (sec)* | *2.5E-09* | | *Polynomial: time = 3.7E-06* x^0.27 (sec) | 2.8E-09 | | Logarithmic: time = -0.00011 + 1.8E-05*log(n) (sec)* | *4.1E-09* | | *Linearithmic: time = 3.2E-05 + 4.2E-11*n*log(n) (sec)* | *3.4E-10* | | *Exponential: time = 3.6E-05* 1^n (sec) | 1E-09 |

Execution Time vs. Input Size Plot:

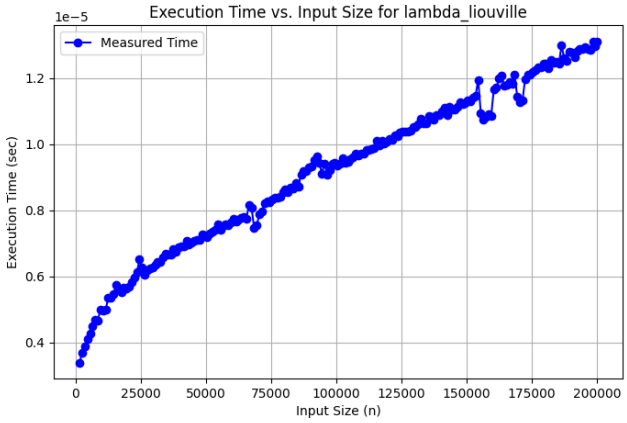


Complexity Analysis for `lambda_liouville`

Best Fit Complexity: `Constant: time = 7.9E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 7.9E-05 (sec) | 9.7E-09 | | Linear: time = 3E-05 + 4.8E-10*n (sec)* | *3.2E-10* | | *Quadratic: time = 4.7E-05 + 2.2E-15*n^2 (sec) | 1E-09 | | Cubic: time = 5.5E-05 + 1E-20*n^3 (sec)* | *2.1E-09* | | *Polynomial: time = 4.7E-06* x^0.25 (sec) | 2.7E-09 | | Logarithmic: time = -9.9E-05 + 1.6E-05*log(n) (sec)* | *3.7E-09* | | *Linearithmic: time = 3.3E-05 + 3.9E-11*n*log(n) (sec)* | *3.2E-10* | | *Exponential: time = 3.7E-05* 1^n (sec) | 8E-10 |

Execution Time vs. Input Size Plot:



Complexity Analysis for `mu_mobius`

Best Fit Complexity: `Constant: time = 0.0002 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 0.0002 (sec) | 9.6E-08 | | Linear: time = 6.7E-05 + 1.3E-09*n (sec)* | *2.4E-08* | | *Quadratic: time = 0.00012 + 5.8E-15*n^2 (sec) | 3.8E-08 | | Cubic: time = 0.00014 + 2.6E-20*n^3 (sec)* | *5.1E-08* | | *Polynomial: time = 3.9E-06* x^0.34 (sec) | 3.2E-08 | | Logarithmic: time = -0.00034 + 4.9E-05*log(n) (sec)* | *4.1E-08* | | *Linearithmic: time = 7.4E-05 + 1.1E-10*n*log(n) (sec)* | *2.5E-08* | | *Exponential: time = 7.6E-05* 1^n (sec) | 4.2E-08 |

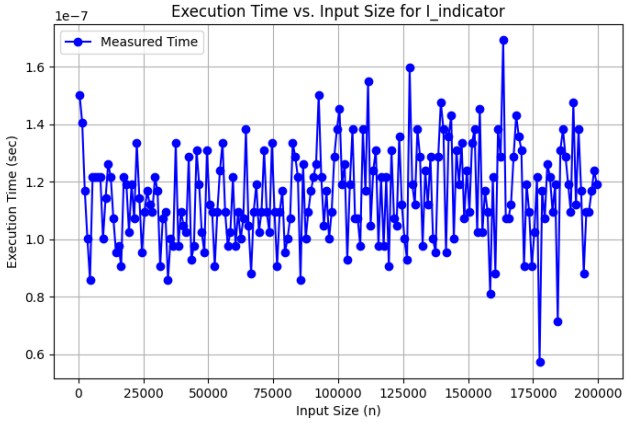
Execution Time vs. Input Size Plot:

Complexity Analysis for `I_indicator`

Best Fit Complexity: `Constant: time = 8.7E-07 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 8.7E-07 (sec) | 7.8E-13 | | Linear: time = 1.2E-06 + -3.2E-12*n (sec)* | *3.5E-13* | | *Quadratic: time = 1E-06 + -1.2E-17*n^2 (sec) | 5.2E-13 | | Cubic: time = 9.8E-07 + -5.3E-23*n^3 (sec)* | *5.9E-13* | | *Polynomial: time = 2.1E-06* x^-0.086 (sec) | 7.7E-14 | | Logarithmic: time = 1.9E-06 + -9.5E-08*log(n) (sec)* | *5.7E-14* | | *Linearithmic: time = 1.2E-06 + -2.5E-13*n*log(n) (sec)* | *3.8E-13* | | *Exponential: time = 1.2E-06* 1^n (sec) | 3.2E-13 |

Execution Time vs. Input Size Plot:

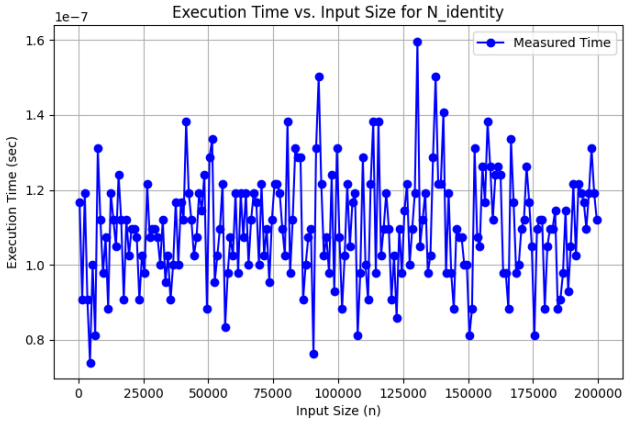


Complexity Analysis for `N_identity`

Best Fit Complexity: `Constant: time = 8.5E-07 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 8.5E-07 (sec) | 1.1E-12 | | Linear: time = 1.2E-06 + -3.7E-12*n (sec)* | *5E-13* | | *Quadratic: time = 1E-06 + -1.4E-17*n^2 (sec) | 7.1E-13 | | Cubic: time = 9.9E-07 + -6.2E-23*n^3 (sec)* | *8E-13* | | *Polynomial: time = 2.3E-06* x^-0.1 (sec) | 9.8E-14 | | Logarithmic: time = 2E-06 + -1.1E-07*log(n) (sec)* | *7E-14* | | *Linearithmic: time = 1.2E-06 + -2.9E-13*n*log(n) (sec)* | *5.3E-13* | | *Exponential: time = 1.2E-06* 1^n (sec) | 4.6E-13 |

Execution Time vs. Input Size Plot:



Complexity Analysis for `Z_is_perfect`

Best Fit Complexity: `Constant: time = 5.8E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 5.8E-05 (sec) | 5.9E-09 | | Linear: time = 2.1E-05 + 3.7E-10*n (sec)* | *2.4E-10* | | *Quadratic: time = 3.4E-05 + 1.7E-15*n^2 (sec) | 9.5E-10 | | Cubic: time = 4E-05 + 8E-21*n^3 (sec)* | *1.5E-09* | | *Polynomial: time = 5.7E-06* x^0.21 (sec) | 1.3E-09 | | Logarithmic: time = -1.5E-05 + 6.9E-06*log(n) (sec)* | *2.1E-09* | | *Linearithmic: time = 2.2E-05 + 3E-11*n*log(n) (sec)* | *3E-10* | | *Exponential: time = 2.2E-05* 1^n (sec) | 1.3E-09 |

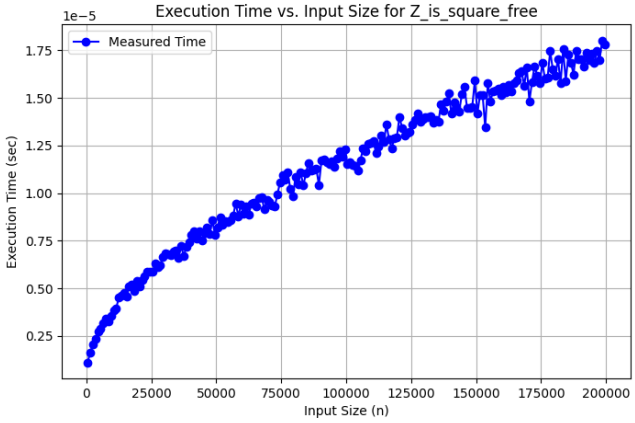
Execution Time vs. Input Size Plot:

Complexity Analysis for `Z_is_square_free`

Best Fit Complexity: `Constant: time = 0.00017 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 0.00017 (sec) | 3.5E-07 | | Linear: time = 6.3E-05 + 1.1E-09*n (sec)* | *3E-07* | | *Quadratic: time = 0.00011 + 4.3E-15*n^2 (sec) | 3.2E-07 | | Cubic: time = 0.00014 + 1.6E-20*n^3 (sec)* | *3.3E-07* | | *Polynomial: time = 8E-06* x^0.15 (sec) | 5E-07 | | Logarithmic: time = -6.7E-05 + 2.3E-05*log(n) (sec)* | *3.1E-07* | | *Linearithmic: time = 7E-05 + 8.7E-11*n*log(n) (sec)* | *3E-07* | | *Exponential: time = 2.9E-05* 1^n (sec) | 5.1E-07 |

Execution Time vs. Input Size Plot:

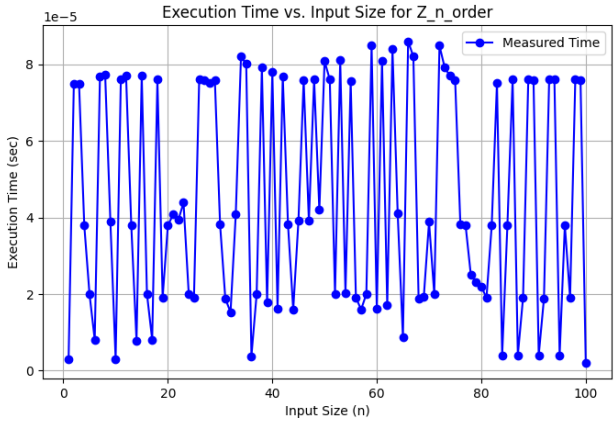


Complexity Analysis for `Z_n_order`

Best Fit Complexity: `Constant: time = 0.00043 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————-|———-| | Constant: time = 0.00043 (sec) | 9.5E-07 | | Linear: time = 0.00047 + -7E-07*n (sec)* | *9.4E-07* | | *Quadratic: time = 0.00049 + -1.6E-08*n^2 (sec) | 9.2E-07 | | Cubic: time = 0.00049 + -2E-10*n^3 (sec)* | *9.1E-07* | | *Polynomial: time = 5E-05* x^0.44 (sec) | 1.3E-06 | | Logarithmic: time = 0.00025 + 5.2E-05*log(n) (sec)* | *9E-07* | | *Linearithmic: time = 0.00048 + -2.2E-07*n*log(n) (sec)* | *9.4E-07* | | *Exponential: time = 0.00025* 1^n (sec) | 1.3E-06 |

Execution Time vs. Input Size Plot:

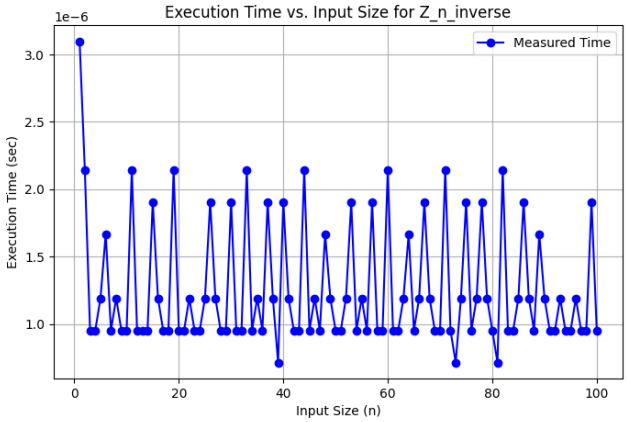


Complexity Analysis for `Z_n_inverse`

Best Fit Complexity: `Constant: time = 9.9E-06 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 9.9E-06 (sec) | 9.1E-11 | | Linear: time = 1.3E-05 + -6.2E-08*n (sec)* | *5.2E-11* | | *Quadratic: time = 1.1E-05 + -4.4E-10*n^2 (sec) | 7E-11 | | Cubic: time = 1.1E-05 + -3.7E-12*n^3 (sec)* | *7.6E-11* | | *Polynomial: time = 1.7E-05* x^-0.17 (sec) | 1.1E-11 | | Logarithmic: time = 1.7E-05 + -2.1E-06*log(n) (sec)* | *1.4E-11* | | *Linearithmic: time = 1.2E-05 + -1.2E-08*n*log(n) (sec)* | *5.8E-11* | | *Exponential: time = 1.2E-05* 0.99^n (sec) | 5E-11 |

Execution Time vs. Input Size Plot:

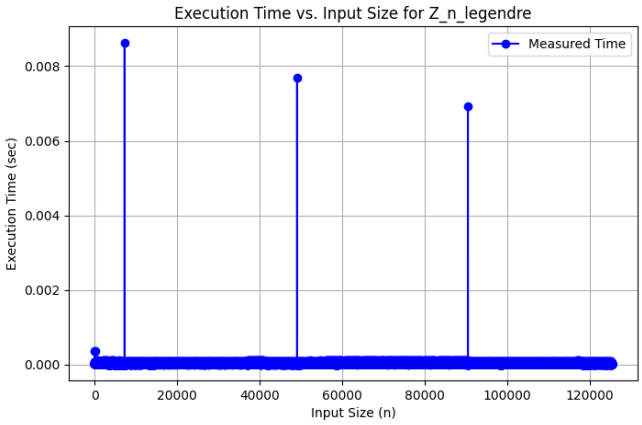


Complexity Analysis for `Z_n_legendre`

Best Fit Complexity: `Constant: time = 9.5E-05 (sec)`

Detailed Fit Residuals: | Complexity Class | Residual | |———————|———-| | Constant: time = 9.5E-05 (sec) | 8.2E-10 | | Linear: time = 0.0001 + -1.4E-10*n (sec)* | *5.1E-10* | | *Quadratic: time = 9.9E-05 + -7.6E-16*n^2 (sec) | 6.6E-10 | | Cubic: time = 9.7E-05 + -5E-21*n^3 (sec)* | *7.1E-10* | | *Polynomial: time = 0.00012* x^-0.025 (sec) | 1.1E-11 | | Logarithmic: time = 0.00012 + -2.7E-06*log(n) (sec)* | *1.2E-11* | | *Linearithmic: time = 0.0001 + -1.1E-11*n*log(n) (sec)* | *5.3E-10* | | *Exponential: time = 0.0001* 1^n (sec) | 5E-10 |

Execution Time vs. Input Size Plot:


Execution Time vs. Input Size for Z_n_legendre
Measured Time
Execution Time (sec)
0.008
0.006
0.004
0.002
0.000
0
20000
40000
60000
80000
100000
120000
Input Size (n)