**x86测试**

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| **TestCase** | **TestSysy(s)** | **TestTensor(s)** | **Comparison** |
| 00\_Binary1.o | 0.00525 | 0.003468 | ok |
| 01\_Binary2.o | 0.021748 | 0.007823 | ok |
| 02\_Binary3.o | 0.02158 | 0.007557 | ok |
| 03\_ConvSame1.o | 0.023883 | 0.020779 | ok |
| 04\_ConvSame2.o | 0.173512 | 0.128581 | ok |
| 05\_ConvSame3.o | 3.86098 | 0.368089 | ok |
| 06\_ConvVal1.o | 0.01132 | 0.011751 | ok |
| 07\_ConvVal2.o | 0.082821 | 0.052809 | ok |
| 08\_ConvVal3.o | 1.755184 | 0.180848 | ok |
| 09\_MatMul1.o | 2.194102 | 0.033854 | ok |
| 10\_MatMul2.o | 29.506408 | 0.258174 | ok |
| 11\_MatMul3.o | 0.100705 | 0.007559 | ok |
| 12\_MatMulVec1.o | 0.002483 | 0.002705 | ok |
| 13\_MatMulVec2.o | 0.019042 | 0.004664 | ok |
| 14\_MatMulVec3.o | 0.062684 | 0.00951 | ok |
| 15\_Reduction1.o | 0.00236 | 0.001439 | ok |
| 16\_Reduction2.o | 0.009862 | 0.005961 | ok |
| 17\_Reduction3.o | 0.009649 | 0.005718 | ok |
| 18\_Transpose1.o | 0.004176 | 0.002808 | ok |
| 19\_Transpose2.o | 0.022305 | 0.006472 | ok |
| 20\_Transpose3.o | 0.029721 | 0.010685 | ok |
| Total | 37.919775 | 1.131254 | 21/21 |

ARM测试

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| **TestCase** | **TestSysy(s)** | **TestTensor(s)** | **Comparison** |
| 00\_Binary1.o | 0.029077 | 0.028027 | ok |
| 01\_Binary2.o | 0.122201 | 0.10494 | ok |
| 02\_Binary3.o | 0.120592 | 0.103845 | ok |
| 03\_ConvSame1.o | 0.259467 | 0.056922 | ok |
| 04\_ConvSame2.o | 1.249897 | 0.312281 | ok |
| 05\_ConvSame3.o | 24.106561 | 1.940864 | ok |
| 06\_ConvVal1.o | 0.128008 | 0.027537 | ok |
| 07\_ConvVal2.o | 0.696337 | 0.264619 | ok |
| 08\_ConvVal3.o | 10.151206 | 2.411624 | ok |
| 09\_MatMul1.o | 24.658918 | 1.256825 | ok |
| 10\_MatMul2.o | 301.533409 | 10.481578 | ok |
| 11\_MatMul3.o | 1.88668 | 0.092882 | ok |
| 12\_MatMulVec1.o | 0.027504 | 0.009046 | ok |
| 13\_MatMulVec2.o | 0.149174 | 0.028922 | ok |
| 14\_MatMulVec3.o | 0.297447 | 0.053793 | ok |
| 15\_Reduction1.o | 0.011167 | 0.00464 | ok |
| 16\_Reduction2.o | 0.044673 | 0.017981 | ok |
| 17\_Reduction3.o | 0.04468 | 0.017942 | ok |
| 18\_Transpose1.o | 0.04669 | 0.027213 | ok |
| 19\_Transpose2.o | 0.180283 | 0.101947 | ok |
| 20\_Transpose3.o | 0.180955 | 0.108427 | ok |
| Total | 365.924926 | 17.451855 | 21/21 |

消融实验

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| **10\_MatMul2.o** | **原始** | **向量化** | **分块** | **并行** |
| ARM | 301.360028 | 98.15717 | 11.52459 | 10.349504 |
| x86 | 20.30942 | 6.113878 | 0.901004 | 0.223899 |

ARM性能

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| **Performance** | **Time(s)** | **Comparison** |
| 00\_bitset1.o | 0.4036 | ok |
| 00\_bitset2.o | 0.775 | ok |
| 00\_bitset3.o | 1.1797 | ok |
| 01\_mm1.o | 4.793 | ok |
| 01\_mm2.o | 4.8924 | ok |
| 01\_mm3.o | 3.8339 | ok |
| 02\_mv1.o | 3.4989 | ok |
| 02\_mv2.o | 1.3262 | ok |
| 02\_mv3.o | 2.2899 | ok |
| 03\_sort1.o | 0.5711 | ok |
| 03\_sort2.o | 9.2798 | ok |
| 03\_sort3.o | 1.8324 | ok |
| 04\_spmv1.o | 2.1206 | ok |
| 04\_spmv2.o | 1.6218 | ok |
| 04\_spmv3.o | 0.7805 | ok |
| brainfuck-bootstrap.o | 8.5426 | ok |
| brainfuck-mandelbrot-nerf.o | 42.5764 | ok |
| brainfuck-pi-nerf.o | 2.1493 | ok |
| conv0.o | 5.705 | ok |
| conv1.o | 9.1588 | ok |
| conv2.o | 5.4806 | ok |
| crypto-1.o | 0.6261 | ok |
| crypto-2.o | 0.5135 | ok |
| crypto-3.o | 0.6792 | ok |
| dead-code-elimination-1.o | 0 | ok |
| dead-code-elimination-2.o | 0.0001 | ok |
| dead-code-elimination-3.o | 0.0091 | ok |
| fft0.o | 2.6708 | ok |
| fft1.o | 5.7422 | ok |
| fft2.o | 5.4699 | ok |
| floyd-0.o | 0 | ok |
| floyd-1.o | 0.0037 | ok |
| floyd-2.o | 1.9097 | ok |
| gameoflife-gosper.o | 12.1637 | ok |
| gameoflife-oscillator.o | 10.825 | ok |
| gameoflife-p61glidergun.o | 10.738 | ok |
| hoist-1.o | 0.0006 | ok |
| hoist-2.o | 0.5561 | ok |
| hoist-3.o | 5.5603 | ok |
| instruction-combining-1.o | 0 | ok |
| instruction-combining-2.o | 0.0002 | ok |
| instruction-combining-3.o | 0.0002 | ok |
| integer-divide-optimization-1.o | 0.0002 | ok |
| integer-divide-optimization-2.o | 0.109 | ok |
| integer-divide-optimization-3.o | 1.7421 | ok |
| median0.o | 1.5874 | ok |
| median1.o | 0.0013 | ok |
| median2.o | 8.4536 | ok |
| shuffle0.o | 8.7077 | ok |
| shuffle1.o | 10.0179 | ok |
| shuffle2.o | 2.4466 | ok |
| sl1.o | 2.7904 | ok |
| sl2.o | 1.0818 | ok |
| sl3.o | 0.5102 | ok |
| stencil0.o | 0.0439 | ok |
| stencil1.o | 0.0901 | ok |
| transpose0.o | 3.1902 | ok |
| transpose1.o | 3.1117 | ok |
| transpose2.o | 9.4207 | ok |
| Total | 223.5845 | 59/59 |

ARM隐藏性能

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| **Final Performance** | **Time(s)** | **Comparison** |
| 01\_mm1.o | 4.9371 | ok |
| 01\_mm2.o | 4.7642 | ok |
| 01\_mm3.o | 3.7392 | ok |
| 03\_sort1.o | 0.5706 | ok |
| 03\_sort2.o | 9.2871 | ok |
| 03\_sort3.o | 1.8396 | ok |
| 04\_spmv1.o | 2.0765 | ok |
| 04\_spmv2.o | 1.4473 | ok |
| 04\_spmv3.o | 0.7754 | ok |
| fft0.o | 2.6317 | ok |
| fft1.o | 5.7824 | ok |
| fft2.o | 5.4671 | ok |
| gameoflife-gosper.o | 12.2814 | ok |
| gameoflife-oscillator.o | 10.7525 | ok |
| gameoflife-p61glidergun.o | 11.0459 | ok |
| if-combine1.o | 3.617 | ok |
| if-combine2.o | 5.4241 | ok |
| if-combine3.o | 9.0777 | ok |
| large\_loop\_array\_1.o | 1.7943 | ok |
| large\_loop\_array\_2.o | 3.4424 | ok |
| large\_loop\_array\_3.o | 1.3784 | ok |
| matmul1.o | 5.7191 | ok |
| matmul2.o | 5.7169 | ok |
| matmul3.o | 5.7166 | ok |
| recursive\_call\_1.o | 9.0306 | ok |
| recursive\_call\_2.o | 2.2619 | ok |
| recursive\_call\_3.o | 4.5276 | ok |
| shuffle0.o | 9.9104 | ok |
| shuffle1.o | 9.9882 | ok |
| shuffle2.o | 2.5067 | ok |
| sl1.o | 2.8021 | ok |
| sl2.o | 1.1087 | ok |
| sl3.o | 0.5099 | ok |
| transpose0.o | 3.3333 | ok |
| transpose1.o | 3.1908 | ok |
| transpose2.o | 9.456 | ok |
| Total | 177.9106 | 36/36 |

x86性能

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| **Performance** | **Time(s)** | **Comparison** |
| 00\_bitset1.o | 0.0954 | ok |
| 00\_bitset2.o | 0.1885 | ok |
| 00\_bitset3.o | 0.2832 | ok |
| 01\_mm1.o | 0.4191 | ok |
| 01\_mm2.o | 0.3706 | ok |
| 01\_mm3.o | 0.2851 | ok |
| 02\_mv1.o | 1.1819 | ok |
| 02\_mv2.o | 0.4615 | ok |
| 02\_mv3.o | 0.6792 | ok |
| 03\_sort1.o | 0.1181 | ok |
| 03\_sort2.o | 1.9308 | ok |
| 03\_sort3.o | 0.3863 | ok |
| 04\_spmv1.o | 0.224 | ok |
| 04\_spmv2.o | 0.2094 | ok |
| 04\_spmv3.o | 0.159 | ok |
| brainfuck-bootstrap.o | 1.0571 | ok |
| brainfuck-mandelbrot-nerf.o | 6.8658 | ok |
| brainfuck-pi-nerf.o | 0.243 | ok |
| conv0.o | 2.4912 | ok |
| conv1.o | 4.012 | ok |
| conv2.o | 2.4144 | ok |
| crypto-1.o | 0.1616 | ok |
| crypto-2.o | 0.1332 | ok |
| crypto-3.o | 0.1742 | ok |
| dead-code-elimination-1.o | 0 | ok |
| dead-code-elimination-2.o | 0 | ok |
| dead-code-elimination-3.o | 0.0042 | ok |
| fft0.o | 1.2942 | ok |
| fft1.o | 2.8026 | ok |
| fft2.o | 2.6896 | ok |
| floyd-0.o | 0 | ok |
| floyd-1.o | 0.0012 | ok |
| floyd-2.o | 0.4039 | ok |
| gameoflife-gosper.o | 1.5657 | ok |
| gameoflife-oscillator.o | 1.4242 | ok |
| gameoflife-p61glidergun.o | 1.3429 | ok |
| hoist-1.o | 0.0003 | ok |
| hoist-2.o | 0.2542 | ok |
| hoist-3.o | 2.5331 | ok |
| instruction-combining-1.o | 0 | ok |
| instruction-combining-2.o | 0.0001 | ok |
| instruction-combining-3.o | 0.0001 | ok |
| integer-divide-optimization-1.o | 0 | ok |
| integer-divide-optimization-2.o | 0.0248 | ok |
| integer-divide-optimization-3.o | 0.3661 | ok |
| median0.o | 0.2067 | ok |
| median1.o | 0.0005 | ok |
| median2.o | 1.0889 | ok |
| shuffle0.o | 1.1649 | ok |
| shuffle1.o | 0.9647 | ok |
| shuffle2.o | 0.381 | ok |
| sl1.o | 0.8523 | ok |
| sl2.o | 0.2838 | ok |
| sl3.o | 0.1356 | ok |
| stencil0.o | 0.0042 | ok |
| stencil1.o | 0.0093 | ok |
| transpose0.o | 0.44 | ok |
| transpose1.o | 0.324 | ok |
| transpose2.o | 0.8733 | ok |
| Total | 45.9809 | 59/59 |

x86最终性能

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| **Final Performance** | **Time(s)** | **Comparison** |
| 01\_mm1.o | 0.4124 | ok |
| 01\_mm2.o | 0.3619 | ok |
| 01\_mm3.o | 0.285 | ok |
| 03\_sort1.o | 0.1186 | ok |
| 03\_sort2.o | 1.935 | ok |
| 03\_sort3.o | 0.3845 | ok |
| 04\_spmv1.o | 0.2238 | ok |
| 04\_spmv2.o | 0.2074 | ok |
| 04\_spmv3.o | 0.159 | ok |
| fft0.o | 1.2914 | ok |
| fft1.o | 2.8043 | ok |
| fft2.o | 2.6893 | ok |
| gameoflife-gosper.o | 1.5614 | ok |
| gameoflife-oscillator.o | 1.4275 | ok |
| gameoflife-p61glidergun.o | 1.3442 | ok |
| if-combine1.o | 0.6293 | ok |
| if-combine2.o | 0.9894 | ok |
| if-combine3.o | 1.6007 | ok |
| large\_loop\_array\_1.o | 0.432 | ok |
| large\_loop\_array\_2.o | 0.8779 | ok |
| large\_loop\_array\_3.o | 0.3609 | ok |
| matmul1.o | 0.505 | ok |
| matmul2.o | 0.5047 | ok |
| matmul3.o | 0.5059 | ok |
| recursive\_call\_1.o | 2.4336 | ok |
| recursive\_call\_2.o | 0.6043 | ok |
| recursive\_call\_3.o | 1.2191 | ok |
| shuffle0.o | 1.1755 | ok |
| shuffle1.o | 0.9582 | ok |
| shuffle2.o | 0.3867 | ok |
| sl1.o | 0.867 | ok |
| sl2.o | 0.2827 | ok |
| sl3.o | 0.1348 | ok |
| transpose0.o | 0.4424 | ok |
| transpose1.o | 0.3294 | ok |
| transpose2.o | 0.8807 | ok |
| Total | 31.3258 | 36/36 |