

N (Dimensions)	S (block size)	Execution time	L1 cache misses	L2 cache misses	L3 cache misses	Total instructions	Total cycles	q = 2n / N
For matmul3								
1024	16	6	140010064	6935126	Unsupported	54770292157	15746952977	64
1024	32	6	139901311	6930219	Unsupported	54770291745	15761781368	32
1024	64	5	139695430	6830662	Unsupported	54770291615	15704627371	16
1024	128	5	139816746	6962508	Unsupported	54770291614	15734000665	8
2048	16	47	1283092134	59133488	Unsupported	438124745641	128119674684	128
2048	32	47	1287311392	60367512	Unsupported	438124560250	128635591354	64
2048	64	47	1287580861	59562255	Unsupported	438124552992	128116082380	32
2048	128	45	1288203531	60621808	Unsupported	438124551162	127674002877	16
4096	16	371	17202680302	336549159	Unsupported	3504847062457	1018804623401	256
4096	32	365	17183789081	343307945	Unsupported	3504846200350	1013486733718	128
4096	64	351	17170401307	344223598	Unsupported	3504849518984	1019832429202	64
4096	128	373	17170685937	349662884	Unsupported	3504850659921	1021271244958	32
For matmul1								
1024		18	178990921	15386081	Unsupported	58625326123	18535135522	
2048		123	2546080759	86437029	Unsupported	453918953839	140462152537	
4096		973	19464005723	495563171	Unsupported	3568370439006	1071718382336	
For matmaul2								
1024		6	140089140	7616024	Unsupported	54770292896	16014209239	
2048		46	1290099115	59883136	Unsupported	438124559400	127753719477	
4096		346	17178693218	343028649	Unsupported	3504845274423	1010755156428	
- It is generally said that your fastest cache (L1) should be able to accomodate 3 blocks(stride*stride) of data for optimal performance in case of matrix multiplication.								
- Clearly due to locality matmul1 is worse followed by matmul2 and best is matmul3 as they use locality best in increasing order.								
- For matmul1 and matmul2 the L1 and L2 cache misses increase greatly with the increase in dimension of matmul3 the cache miss increases significantly with dimension size, however show a slight variation with increasing size								
- While looking at blocked matrix multiplication the last 4 column do not change significantly with change in block size.								
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							200010013 - Dibyashu Kashyap	