Direct Mapped	N Sets, 1 Blocks		
Set	Block	Byte/Block	**TOTAL**
1024	1	128	**131072**
8192	1	16	**131072**
512	1	256	**131072**
M-Set Associativ	N Sets, m Blocks		
Set	Block	Byte	**TOTAL**
512	4	64	**131072**
512	32	8	**131072**
256	4	128	**131072**
Fully Associative	1 Sets, m Blocks		
Set	Block	Byte	**TOTAL**
1	1024	128	**131072**
1	8192	16	**131072**
1	512	256	**131072**

m-set assocative

Cache Size:	File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Total Cycles	Cycles / operation		FIFO inefficiency %
256_4_128	gcc	no write allocate	write through	fifo	318197	197486	25099421	48.67219009		
256_4_128	gcc	no write allocate	write through	lru	318197	197486	24910618	48.30606788		**0.76%**
256_4_128	gcc	write allocate	write back	fifo	318197	197486	9696968	18.80412579		
256_4_128	gcc	write allocate	write back	lru	318197	197486	9588091	18.59299415		**1.14%**
256_4_128	gcc	write allocate	write through	fifo	318197	197486	27197842	52.74139733		
256_4_128	gcc	write allocate	write through	lru	318197	197486	26893783	52.15177347		**1.13%**
256_4_128	swim	no write allocate	write through	fifo	220668	82525	11612312	38.30006629		
256_4_128	swim	no write allocate	write through	lru	220668	82525	11583513	38.20508059		**0.2486%**
256_4_128	swim	write allocate	write back	fifo	220668	82525	8844253	29.17037333		
256_4_128	swim	write allocate	write back	lru	220668	82525	8757824	28.88531068		**0.9869%**
256_4_128	swim	write allocate	write through	fifo	220668	82525	14595988	48.14091354		
256_4_128	swim	write allocate	write through	lru	220668	82525	14480766	47.76088498		**0.7957%**
512_4_64	gcc	no write allocate	write through	fifo	318197	197486	24069799	46.67557201		
512_4_64	gcc	no write allocate	write through	lru	318197	197486	23981777	46.50488188		**0.3670%**
512_4_64	gcc	write allocate	write back	fifo	318197	197486	7850669	15.22382743		
512_4_64	gcc	write allocate	write back	lru	318197	197486	7837782	15.19883727		**0.1644%**
512_4_64	gcc	write allocate	write through	fifo	318197	197486	26019258	50.45591575		
512_4_64	gcc	write allocate	write through	lru	318197	197486	25855986	50.13930263		**0.6315%**
512_4_64	swim	no write allocate	write through	fifo	220668	82525	11278591	37.19937795		
512_4_64	swim	no write allocate	write through	lru	220668	82525	11262587	37.14659309		**0.1421%**
512_4_64	swim	write allocate	write back	fifo	220668	82525	8189949	27.01232878		
512_4_64	swim	write allocate	write back	lru	220668	82525	8109911	26.74834511		**0.9869%**
512_4_64	swim	write allocate	write through	fifo	220668	82525	14205772	46.85389175		
512_4_64	swim	write allocate	write through	lru	220668	82525	14127345	46.59522153		**0.5551%**
512_32_8	gcc	no write allocate	write through	fifo	318197	197486	21928517	42.52324975		
512_32_8	gcc	no write allocate	write through	lru	318197	197486	21927915	42.52208236		**0.0027%**
512_32_8	gcc	write allocate	write back	fifo	318197	197486	5418793	10.50799231		
512_32_8	gcc	write allocate	write back	lru	318197	197486	5391642	10.45534175		**0.5036%**
512_32_8	gcc	write allocate	write through	fifo	318197	197486	24508754	47.52678293		
512_32_8	gcc	write allocate	write through	lru	318197	197486	24468652	47.4490181		**0.1639%**
512_32_8	swim	no write allocate	write through	fifo	220668	82525	9172971	30.25456063		
512_32_8	swim	no write allocate	write through	lru	220668	82525	9172971	30.25456063		**0.0000%**
512_32_8	swim	write allocate	write back	fifo	220668	82525	5040209	16.6237644		
512_32_8	swim	write allocate	write back	lru	220668	82525	5056605	16.67784217		**−0.3242%**
512_32_8	swim	write allocate	write through	fifo	220668	82525	12501605	41.23315842		
512_32_8	swim	write allocate	write through	lru	220668	82525	12500403	41.22919395		**0.0096%**
Fully Associative										

Cache Size:	File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Total Cycles	Cycles / operation	FIFO increased inefficiency
1_8912_16	gcc	no write allocate	write through	fifo	318197	197486	22628013	43.87969547	
1_8912_16	gcc	no write allocate	write through	lru	318197	197486	22628013	43.87969547	**0.00%**
1_8912_16	gcc	write allocate	write back	fifo	318197	197486	5894140	11.42977372	
1_8912_16	gcc	write allocate	write back	lru	318197	197486	5881216	11.40471181	**0.22%**
1_8912_16	gcc	write allocate	write through	fifo	318197	197486	24833428	48.15638289	
1_8912_16	gcc	write allocate	write through	lru	318197	197486	24768542	48.03055753	**0.26%**
1_8912_16	swim	no write allocate	write through	fifo	220668	82525	9539218	31.46252717	
1_8912_16	swim	no write allocate	write through	lru	220668	82525	9539218	31.46252717	**0.00%**
1_8912_16	swim	write allocate	write back	fifo	220668	82525	6125306	20.20266299	
1_8912_16	swim	write allocate	write back	lru	220668	82525	6154500	20.29895149	**−0.47%**
1_8912_16	swim	write allocate	write through	fifo	220668	82525	13118106	43.26652001	
1_8912_16	swim	write allocate	write through	lru	220668	82525	13114503	43.25463649	**0.03%**
1_512_256	gcc	no write allocate	write through	fifo	318197	197486	26911697	52.18651187	
1_512_256	gcc	no write allocate	write through	lru	318197	197486	26489311	51.36743115	**1.59%**
1_512_256	gcc	write allocate	write back	fifo	318197	197486	12855274	24.92863639	
1_512_256	gcc	write allocate	write back	lru	318197	197486	12490405	24.22109125	**2.92%**
1_512_256	gcc	write allocate	write through	fifo	318197	197486	29038320	56.31040775	
1_512_256	gcc	write allocate	write through	lru	318197	197486	28519863	55.30502848	**1.82%**
1_512_256	swim	no write allocate	write through	fifo	220668	82525	12180067	40.1726524	
1_512_256	swim	no write allocate	write through	lru	220668	82525	12052051	39.7504263	**1.06%**
1_512_256	swim	write allocate	write back	fifo	220668	82525	10050581	33.14911954	
1_512_256	swim	write allocate	write back	lru	220668	82525	9800957	32.32580238	**2.55%**
1_512_256	swim	write allocate	write through	fifo	220668	82525	15223870	50.21181228	
1_512_256	swim	write allocate	write through	lru	220668	82525	14999857	49.47296606	**1.49%**
1_1024_128	gcc	no write allocate	write through	fifo	318197	197486	25061007	48.59769859	
1_1024_128	gcc	no write allocate	write through	lru	318197	197486	24865775	48.21910941	**0.79%**
1_1024_128	gcc	write allocate	write back	fifo	318197	197486	9604098	18.62403453	
1_1024_128	gcc	write allocate	write back	lru	318197	197486	9584829	18.58666855	**0.20%**
1_1024_128	gcc	write allocate	write through	fifo	318197	197486	27079379	52.51167675	
1_1024_128	gcc	write allocate	write through	lru	318197	197486	26823321	52.01513527	**0.95%**
1_1024_128	swim	no write allocate	write through	fifo	220668	82525	11567444	38.15208135	
1_1024_128	swim	no write allocate	write through	lru	220668	82525	11567444	38.15208135	**0.00%**
1_1024_128	swim	write allocate	write back	fifo	220668	82525	8940259	29.48702312	
1_1024_128	swim	write allocate	write back	lru	220668	82525	8761028	28.8958782	**2.05%**
1_1024_128	swim	write allocate	write through	fifo	220668	82525	14592789	48.13036251	
1_1024_128	swim	write allocate	write through	lru	220668	82525	14451971	47.66591247	**0.97%**

M-Way Associative

Cache Size:	File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Total Cycles	Cycles / operation	write back decrease in cycles per operation
256_4_128	gcc	write allocate	write back	fifo	318197	197486	9696968	18.80412579	**−64.3466%**
256_4_128	gcc	write allocate	write back	lru	318197	197486	9588091	18.59299415	**−64.3483%**
256_4_128	gcc	write allocate	write through	fifo	318197	197486	27197842	52.74139733	
256_4_128	gcc	write allocate	write through	lru	318197	197486	26893783	52.15177347	
256_4_128	swim	write allocate	write back	fifo	220668	82525	8844253	29.17037333	**−39.4063%**
256_4_128	swim	write allocate	write back	lru	220668	82525	8757824	28.88531068	**−39.5210%**
256_4_128	swim	write allocate	write through	fifo	220668	82525	14595988	48.14091354	
256_4_128	swim	write allocate	write through	lru	220668	82525	14480766	47.76088498	
512_4_64	gcc	write allocate	write back	fifo	318197	197486	7850669	15.22382743	**−69.8275%**
512_4_64	gcc	write allocate	write back	lru	318197	197486	7837782	15.19883727	**−69.6868%**
512_4_64	gcc	write allocate	write through	fifo	318197	197486	26019258	50.45591575	
512_4_64	gcc	write allocate	write through	lru	318197	197486	25855986	50.13930263	
512_4_64	swim	write allocate	write back	fifo	220668	82525	8189949	27.01232878	**−42.3477%**
512_4_64	swim	write allocate	write back	lru	220668	82525	8109911	26.74834511	**−42.5942%**
512_4_64	swim	write allocate	write through	fifo	220668	82525	14205772	46.85389175	
512_4_64	swim	write allocate	write through	lru	220668	82525	14127345	46.59522153	
512_32_8	gcc	write allocate	write back	fifo	318197	197486	5418793	10.50799231	**−77.8904%**
512_32_8	gcc	write allocate	write back	lru	318197	197486	5391642	10.45534175	**−77.9651%**
512_32_8	gcc	write allocate	write through	fifo	318197	197486	24508754	47.52678293	
512_32_8	gcc	write allocate	write through	lru	318197	197486	24468652	47.4490181	
512_32_8	swim	write allocate	write back	fifo	220668	82525	5040209	16.6237644	**−59.6835%**
512_32_8	swim	write allocate	write back	lru	220668	82525	5056605	16.67784217	**−59.5485%**
512_32_8	swim	write allocate	write through	fifo	220668	82525	12501605	41.23315842	
512_32_8	swim	write allocate	write through	lru	220668	82525	12500403	41.22919395	

Fully associative

Cache Size:	File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Total Cycles	Cycles / operation	write back decrease in cycles per operation
1_8912_16	gcc	write allocate	write back	fifo	318197	197486	5894140	11.42977372	
1_8912_16	gcc	write allocate	write through	fifo	318197	197486	24833428	48.15638289	**−76.27%**
1_8912_16	gcc	write allocate	write back	lru	318197	197486	5881216	11.40471181	
1_8912_16	gcc	write allocate	write through	lru	318197	197486	24768542	48.03055753	**−76.26%**
1_8912_16	swim	write allocate	write back	fifo	220668	82525	6125306	20.20266299	
1_8912_16	swim	write allocate	write through	fifo	220668	82525	13118106	43.26652001	**−100.00%**
1_8912_16	swim	write allocate	write back	lru	220668	82525	6154500	20.29895149	
1_8912_16	swim	write allocate	write through	lru	220668	82525	13114503	43.25463649	**−53.07%**
1_512_256	gcc	write allocate	write back	fifo	318197	197486	12855274	24.92863639	
1_512_256	gcc	write allocate	write through	fifo	318197	197486	29038320	56.31040775	**−100.00%**
1_512_256	gcc	write allocate	write back	lru	318197	197486	12490405	24.22109125	

1_512_256	gcc	write allocate	write through	lru	318197	197486	28519863	55.30502848	**-56.20%**
1_512_256	swim	write allocate	write back	fifo	220668	82525	10050581	33.14911954	
1_512_256	swim	write allocate	write through	fifo	220668	82525	15223870	50.21181228	**-33.98%**
1_512_256	swim	write allocate	write back	lru	220668	82525	9800957	32.32580238	
1_512_256	swim	write allocate	write through	lru	220668	82525	14999857	49.47296606	**-34.66%**
1_1024_128	gcc	write allocate	write back	fifo	318197	197486	9604098	18.62403453	
1_1024_128	gcc	write allocate	write through	fifo	318197	197486	27079379	52.51167675	**-64.53%**
1_1024_128	gcc	write allocate	write back	lru	318197	197486	9584829	18.58666855	
1_1024_128	gcc	write allocate	write through	lru	318197	197486	26823321	52.01513527	**-64.27%**
1_1024_128	swim	write allocate	write back	fifo	220668	82525	8940259	29.48702312	
1_1024_128	swim	write allocate	write through	fifo	220668	82525	14592789	48.13036251	**-38.74%**
1_1024_128	swim	write allocate	write back	lru	220668	82525	8761028	28.8958782	
1_1024_128	swim	write allocate	write through	lru	220668	82525	14451971	47.66591247	**-39.38%**

Cache Size:	File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Total Cycles	Cycles / operation	No write allocate decrease in cycles
256_4_128	gcc	no write allocate	write through	fifo	318197	197486	25099421	48.67219009	**−7.7154%**
256_4_128	gcc	no write allocate	write through	lru	318197	197486	24910618	48.30606788	**−7.3741%**
256_4_128	gcc	write allocate	write through	fifo	318197	197486	27197842	52.74139733	
256_4_128	gcc	write allocate	write through	lru	318197	197486	26893783	52.15177347	
256_4_128	swim	no write allocate	write through	fifo	220668	82525	11612312	38.30006629	**−20.4418%**
256_4_128	swim	no write allocate	write through	lru	220668	82525	11583513	38.20508059	**−20.0076%**
256_4_128	swim	write allocate	write through	fifo	220668	82525	14595988	48.14091354	
256_4_128	swim	write allocate	write through	lru	220668	82525	14480766	47.76088498	
512_4_64	gcc	no write allocate	write through	fifo	318197	197486	24069799	46.67557201	**−7.4924%**
512_4_64	gcc	no write allocate	write through	lru	318197	197486	23981777	46.50488188	**−7.2486%**
512_4_64	gcc	write allocate	write through	fifo	318197	197486	26019258	50.45591575	
512_4_64	gcc	write allocate	write through	lru	318197	197486	25855986	50.13930263	
512_4_64	swim	no write allocate	write through	fifo	220668	82525	11278591	37.19937795	**−20.6056%**
512_4_64	swim	no write allocate	write through	lru	220668	82525	11262587	37.14659309	**−20.2781%**
512_4_64	swim	write allocate	write through	fifo	220668	82525	14205772	46.85389175	
512_4_64	swim	write allocate	write through	lru	220668	82525	14127345	46.59522153	
512_32_8	gcc	no write allocate	write through	fifo	318197	197486	21928517	42.52324975	**−10.5278%**
512_32_8	gcc	no write allocate	write through	lru	318197	197486	21927915	42.52208236	**−10.3836%**
512_32_8	gcc	write allocate	write through	fifo	318197	197486	24508754	47.52678293	
512_32_8	gcc	write allocate	write through	lru	318197	197486	24468652	47.4490181	
512_32_8	swim	no write allocate	write through	fifo	220668	82525	9172971	30.25456063	**−26.6257%**
512_32_8	swim	no write allocate	write through	lru	220668	82525	9172971	30.25456063	**−26.6186%**
512_32_8	swim	write allocate	write through	fifo	220668	82525	12501605	41.23315842	
512_32_8	swim	write allocate	write through	lru	220668	82525	12500403	41.22919395	
Fully associative									
1_8912_16	gcc	no write allocate	write through	fifo	318197	197486	22628013	43.87969547	**−8.8808%**
1_8912_16	gcc	no write allocate	write through	lru	318197	197486	22628013	43.87969547	**−8.6421%**
1_8912_16	gcc	write allocate	write through	fifo	318197	197486	24833428	48.15638289	
1_8912_16	gcc	write allocate	write through	lru	318197	197486	24768542	48.03055753	
1_8912_16	swim	no write allocate	write through	fifo	220668	82525	9539218	31.46252717	**−27.2820%**
1_8912_16	swim	no write allocate	write through	lru	220668	82525	9539218	31.46252717	**−27.2621%**
1_8912_16	swim	write allocate	write through	fifo	220668	82525	13118106	43.26652001	
1_8912_16	swim	write allocate	write through	lru	220668	82525	13114503	43.25463649	
1_512_256	gcc	no write allocate	write through	fifo	318197	197486	26911697	52.18651187	**−7.3235%**
1_512_256	gcc	no write allocate	write through	lru	318197	197486	26489311	51.36743115	**−7.1198%**
1_512_256	gcc	write allocate	write through	fifo	318197	197486	29038320	56.31040775	
1_512_256	gcc	write allocate	write through	lru	318197	197486	28519863	55.30502848	
1_512_256	swim	no write allocate	write through	fifo	220668	82525	12180067	40.1726524	**−19.9936%**

1_512_256	swim	no write allocate	write through	lru	220668	82525	12052051	39.7504263	**-19.6522%**	
1_512_256	swim	write allocate	write through	fifo	220668	82525	15223870	50.21181228		
1_512_256	swim	write allocate	write through	lru	220668	82525	14999857	49.47296606		
1_1024_128	gcc	no write allocate	write through	fifo	318197	197486	25061007	48.59769859	**-7.4535%**	
1_1024_128	gcc	no write allocate	write through	lru	318197	197486	24865775	48.21910941	**-7.2979%**	
1_1024_128	gcc	write allocate	write through	fifo	318197	197486	27079379	52.51167675		
1_1024_128	gcc	write allocate	write through	lru	318197	197486	26823321	52.01513527		
1_1024_128	swim	no write allocate	write through	fifo	220668	82525	11567444	38.15208135	**-20.7318%**	
1_1024_128	swim	no write allocate	write through	lru	220668	82525	11567444	38.15208135	**-19.9594%**	
1_1024_128	swim	write allocate	write through	fifo	220668	82525	14592789	48.13036251		
1_1024_128	swim	write allocate	write through	lru	220668	82525	14451971	47.66591247		
Direct Mapped										
512_1_256	gcc	no write allocate	write through	fifo	318197	197486	36826617	71.41328491	**-7.7189%**	
512_1_256	gcc	no write allocate	write through	lru	318197	197486	36826617	71.41328491	**-7.7189%**	
512_1_256	gcc	write allocate	write through	fifo	318197	197486	39906994	77.38667747		
512_1_256	gcc	write allocate	write through	lru	318197	197486	39906994	77.38667747		
512_1_256	swim	no write allocate	write through	fifo	220668	82525	12890479	42.51575399	**-28.5700%**	
512_1_256	swim	no write allocate	write through	lru	220668	82525	12890479	42.51575399	**-28.5700%**	
512_1_256	swim	write allocate	write through	fifo	220668	82525	18046301	59.52083656		
512_1_256	swim	write allocate	write through	lru	220668	82525	18046301	59.52083656		
8192_1_16	gcc	no write allocate	write through	fifo	318197	197486	22835174	44.28141707	**-8.8566%**	
8192_1_16	gcc	no write allocate	write through	lru	318197	197486	22835174	44.28141707	**-8.8566%**	
8192_1_16	gcc	write allocate	write through	fifo	318197	197486	25054104	48.58431246		
8192_1_16	gcc	write allocate	write through	lru	318197	197486	25054104	48.58431246		
8192_1_16	swim	no write allocate	write through	fifo	220668	82525	9548951	31.49462883	**-27.4841%**	
8192_1_16	swim	no write allocate	write through	lru	220668	82525	9548951	31.49462883	**-27.4841%**	
8192_1_16	swim	write allocate	write through	fifo	220668	82525	13168075	43.43132922		
8192_1_16	swim	write allocate	write through	lru	220668	82525	13168075	43.43132922		
1024_1_128	gcc	no write allocate	write through	fifo	318197	197486	29135784	56.49940758	**-7.3261%**	
1024_1_128	gcc	no write allocate	write through	lru	318197	197486	29135784	56.49940758	**-7.3261%**	
1024_1_128	gcc	write allocate	write through	fifo	318197	197486	31439040	60.9658259		
1024_1_128	gcc	write allocate	write through	lru	318197	197486	31439040	60.9658259		
1024_1_128	swim	no write allocate	write through	fifo	220668	82525	11826791	39.00746719	**-24.3307%**	
1024_1_128	swim	no write allocate	write through	lru	220668	82525	11826791	39.00746719	**-24.3307%**	
1024_1_128	swim	write allocate	write through	fifo	220668	82525	15629577	51.54992694		
1024_1_128	swim	write allocate	write through	lru	220668	82525	15629577	51.54992694		

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty
gcc	no write allocate	write through	fifo	318197	197486	315607	2590	181702	15784	36826617	0.96437	0.0356304	6400
gcc	no write allocate	write through	lru	318197	197486	315607	2590	181702	15784	36826617	0.96437	0.0356304	6400
gcc	write allocate	write back	fifo	318197	197486	316013	2184	196601	885	24204079	0.994049	0.00595133	6400
gcc	write allocate	write back	lru	318197	197486	316013	2184	196601	885	25407279	0.994049	0.00595133	6400
gcc	write allocate	write through	fifo	318197	197486	316013	2184	196601	885	39906994	0.994049	0.00595133	6400
gcc	write allocate	write through	lru	318197	197486	316013	2184	196601	885	39906994	0.994049	0.00595133	6400
swim	no write allocate	write through	fifo	220668	82525	219989	679	71430	11095	12890479	0.961167	0.0388334	6400
swim	no write allocate	write through	lru	220668	82525	219989	679	71430	11095	12890479	0.961167	0.0388334	6400
swim	write allocate	write back	fifo	220668	82525	220187	481	81523	1002	13826803	0.995109	0.00489127	6400
swim	write allocate	write back	lru	220668	82525	220187	481	81523	1002	14588403	0.995109	0.00489127	6400
swim	write allocate	write through	fifo	220668	82525	220187	481	81523	1002	18046301	0.995109	0.00489127	6400
swim	write allocate	write through	lru	220668	82525	220187	481	81523	1002	18046301	0.995109	0.00489127	6400

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty
gcc	no write allocate	write through	fifo	318197	197486	311693	6504	164946	32540	22835174	0.924287	0.0757132	400
gcc	no write allocate	write through	lru	318197	197486	311693	6504	164946	32540	22835174	0.924287	0.0757132	400
gcc	write allocate	write back	fifo	318197	197486	315204	2993	188486	9000	6523304	0.976743	0.0232565	400
gcc	write allocate	write back	lru	318197	197486	315204	2993	188486	9000	6628504	0.976743	0.0232565	400
gcc	write allocate	write through	fifo	318197	197486	315204	2993	188486	9000	25054104	0.976743	0.0232565	400
gcc	write allocate	write through	lru	318197	197486	315204	2993	188486	9000	25054104	0.976743	0.0232565	400
swim	no write allocate	write through	fifo	220668	82525	218124	2544	58049	24476	9548951	0.910882	0.0891182	400
swim	no write allocate	write through	lru	220668	82525	218124	2544	58049	24476	9548951	0.910882	0.0891182	400
swim	write allocate	write back	fifo	220668	82525	219625	1043	72012	10513	6226088	0.961886	0.0381143	400
swim	write allocate	write back	lru	220668	82525	219625	1043	72012	10513	6260488	0.961886	0.0381143	400
swim	write allocate	write through	fifo	220668	82525	219625	1043	72012	10513	13168075	0.961886	0.0381143	400
swim	write allocate	write through	lru	220668	82525	219625	1043	72012	10513	13168075	0.961886	0.0381143	400

Cache Size:	File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Total Cycles	Cycles / operation	decrease in cycles per operation
1_8912_16	gcc	write allocate	write back	fifo	318197	197486	5894140	11.42977372	
1_8912_16	gcc	write allocate	write through	fifo	318197	197486	24833428	48.15638289	**-76.27%**
1_8912_16	gcc	write allocate	write back	lru	318197	197486	5881216	11.40471181	
1_8912_16	gcc	write allocate	write through	lru	318197	197486	24768542	48.03055753	**-76.26%**
1_8912_16	swim	write allocate	write back	fifo	220668	82525	6125306	20.20266299	
1_8912_16	swim	write allocate	write through	fifo	220668	82525	13118106	43.26652001	**-100.00%**
1_8912_16	swim	write allocate	write back	lru	220668	82525	6154500	20.29895149	
1_8912_16	swim	write allocate	write through	lru	220668	82525	13114503	43.25463649	**-53.07%**
1_512_256	gcc	write allocate	write back	fifo	318197	197486	12855274	24.92863639	
1_512_256	gcc	write allocate	write through	fifo	318197	197486	29038320	56.31040775	**-100.00%**
1_512_256	gcc	write allocate	write back	lru	318197	197486	12490405	24.22109125	
1_512_256	gcc	write allocate	write through	lru	318197	197486	28519863	55.30502848	**-56.20%**
1_512_256	swim	write allocate	write back	fifo	220668	82525	10050581	33.14911954	
1_512_256	swim	write allocate	write through	fifo	220668	82525	15223870	50.21181228	**-33.98%**
1_512_256	swim	write allocate	write back	lru	220668	82525	9800957	32.32580238	
1_512_256	swim	write allocate	write through	lru	220668	82525	14999857	49.47296606	**-34.66%**
1_1024_128	gcc	write allocate	write back	fifo	318197	197486	9604098	18.62403453	
1_1024_128	gcc	write allocate	write through	fifo	318197	197486	27079379	52.51167675	**-64.53%**
1_1024_128	gcc	write allocate	write back	lru	318197	197486	9584829	18.58666855	
1_1024_128	gcc	write allocate	write through	lru	318197	197486	26823321	52.01513527	**-64.27%**
1_1024_128	swim	write allocate	write back	fifo	220668	82525	8940259	29.48702312	
1_1024_128	swim	write allocate	write through	fifo	220668	82525	14592789	48.13036251	**-38.74%**
1_1024_128	swim	write allocate	write back	lru	220668	82525	8761028	28.8958782	
1_1024_128	swim	write allocate	write through	lru	220668	82525	14451971	47.66591247	**-39.38%**

Cache Size:	File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Total Cycles	Cycles / operation	FIFO increased inefficiency
1_8912_16	gcc	no write allocate	write through	fifo	318197	197486	22628013	43.87969547	
1_8912_16	gcc	no write allocate	write through	lru	318197	197486	22628013	43.87969547	**0.00%**
1_8912_16	gcc	write allocate	write back	fifo	318197	197486	5894140	11.42977372	
1_8912_16	gcc	write allocate	write back	lru	318197	197486	5881216	11.40471181	**0.22%**
1_8912_16	gcc	write allocate	write through	fifo	318197	197486	24833428	48.15638289	
1_8912_16	gcc	write allocate	write through	lru	318197	197486	24768542	48.03055753	**0.26%**
1_8912_16	swim	no write allocate	write through	fifo	220668	82525	9539218	31.46252717	
1_8912_16	swim	no write allocate	write through	lru	220668	82525	9539218	31.46252717	**0.00%**
1_8912_16	swim	write allocate	write back	fifo	220668	82525	6125306	20.20266299	
1_8912_16	swim	write allocate	write back	lru	220668	82525	6154500	20.29895149	**−0.47%**
1_8912_16	swim	write allocate	write through	fifo	220668	82525	13118106	43.26652001	
1_8912_16	swim	write allocate	write through	lru	220668	82525	13114503	43.25463649	**0.03%**
1_512_256	gcc	no write allocate	write through	fifo	318197	197486	26911697	52.18651187	
1_512_256	gcc	no write allocate	write through	lru	318197	197486	26489311	51.36743115	**1.59%**
1_512_256	gcc	write allocate	write back	fifo	318197	197486	12855274	24.92863639	
1_512_256	gcc	write allocate	write back	lru	318197	197486	12490405	24.22109125	**2.92%**
1_512_256	gcc	write allocate	write through	fifo	318197	197486	29038320	56.31040775	
1_512_256	gcc	write allocate	write through	lru	318197	197486	28519863	55.30502848	**1.82%**
1_512_256	swim	no write allocate	write through	fifo	220668	82525	12180067	40.1726524	
1_512_256	swim	no write allocate	write through	lru	220668	82525	12052051	39.7504263	**1.06%**
1_512_256	swim	write allocate	write back	fifo	220668	82525	10050581	33.14911954	
1_512_256	swim	write allocate	write back	lru	220668	82525	9800957	32.32580238	**2.55%**
1_512_256	swim	write allocate	write through	fifo	220668	82525	15223870	50.21181228	
1_512_256	swim	write allocate	write through	lru	220668	82525	14999857	49.47296606	**1.49%**
1_1024_128	gcc	no write allocate	write through	fifo	318197	197486	25061007	48.59769859	
1_1024_128	gcc	no write allocate	write through	lru	318197	197486	24865775	48.21910941	**0.79%**
1_1024_128	gcc	write allocate	write back	fifo	318197	197486	9604098	18.62403453	
1_1024_128	gcc	write allocate	write back	lru	318197	197486	9584829	18.58666855	**0.20%**
1_1024_128	gcc	write allocate	write through	fifo	318197	197486	27079379	52.51167675	
1_1024_128	gcc	write allocate	write through	lru	318197	197486	26823321	52.01513527	**0.95%**
1_1024_128	swim	no write allocate	write through	fifo	220668	82525	11567444	38.15208135	
1_1024_128	swim	no write allocate	write through	lru	220668	82525	11567444	38.15208135	**0.00%**
1_1024_128	swim	write allocate	write back	fifo	220668	82525	8940259	29.48702312	
1_1024_128	swim	write allocate	write back	lru	220668	82525	8761028	28.8958782	**2.05%**
1_1024_128	swim	write allocate	write through	fifo	220668	82525	14592789	48.13036251	
1_1024_128	swim	write allocate	write through	lru	220668	82525	14451971	47.66591247	**0.97%**

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty
gcc	no write allocate	write through	fifo	318197	197486	315419	2778	177481	20005	29135784	0.95582	0.0441802	3200
gcc	no write allocate	write through	lru	318197	197486	315419	2778	177481	20005	29135784	0.95582	0.0441802	3200
gcc	write allocate	write back	fifo	318197	197486	316118	2079	196073	1413	14328653	0.993228	0.0067716	3200
gcc	write allocate	write back	lru	318197	197486	316118	2079	196073	1413	14975053	0.993228	0.0067716	3200
gcc	write allocate	write through	fifo	318197	197486	316118	2079	196073	1413	31439040	0.993228	0.0067716	3200
gcc	write allocate	write through	lru	318197	197486	316118	2079	196073	1413	31439040	0.993228	0.0067716	3200
swim	no write allocate	write through	fifo	220668	82525	219642	1026	70157	12368	11826791	0.955824	0.0441765	3200
swim	no write allocate	write through	lru	220668	82525	219642	1026	70157	12368	11826791	0.955824	0.0441765	3200
swim	write allocate	write back	fifo	220668	82525	220169	499	80813	1712	10245989	0.992708	0.00729238	3200
swim	write allocate	write back	lru	220668	82525	220169	499	80813	1712	10543589	0.992708	0.00729238	3200
swim	write allocate	write through	fifo	220668	82525	220169	499	80813	1712	15629577	0.992708	0.00729238	3200
swim	write allocate	write through	lru	220668	82525	220169	499	80813	1712	15629577	0.992708	0.00729238	3200

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty
gcc	no write allocate	write through	fifo	318197	197486	312207	5990	165216	32270	22628013	0.925807	0.0741929	400
gcc	no write allocate	write through	lru	318197	197486	312207	5990	165216	32270	22628013	0.925807	0.0741929	400
gcc	write allocate	write back	fifo	318197	197486	315666	2531	188574	8912	5894140	0.97781	0.02219	400
gcc	write allocate	write back	lru	318197	197486	315790	2407	188612	8874	5881216	0.978124	0.0218758	400
gcc	write allocate	write through	fifo	318197	197486	315666	2531	188574	8912	24833428	0.97781	0.02219	400
gcc	write allocate	write through	lru	318197	197486	315790	2407	188612	8874	24768542	0.978124	0.0218758	400
swim	no write allocate	write through	fifo	220668	82525	218148	2520	58050	24475	9539218	0.910964	0.0890357	400
swim	no write allocate	write through	lru	220668	82525	218148	2520	58050	24475	9539218	0.910964	0.0890357	400
swim	write allocate	write back	fifo	220668	82525	219736	932	72025	10500	6125306	0.962295	0.0377054	400
swim	write allocate	write back	lru	220668	82525	219742	926	72028	10497	6154500	0.962324	0.0376757	400
swim	write allocate	write through	fifo	220668	82525	219736	932	72025	10500	13118106	0.962295	0.0377054	400
swim	write allocate	write through	lru	220668	82525	219742	926	72028	10497	13114503	0.962324	0.0376757	400

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty
gcc	no write allocate	write through	fifo	318197	197486	317156	1041	181971	15515	26911697	0.967895	0.032105	6400
gcc	no write allocate	write through	lru	318197	197486	317222	975	182051	15435	26489311	0.968178	0.0318219	6400
gcc	write allocate	write back	fifo	318197	197486	317580	617	196732	754	12855274	0.997341	0.00265861	6400
gcc	write allocate	write back	lru	318197	197486	317649	548	196744	742	12490405	0.997498	0.00250154	6400
gcc	write allocate	write through	fifo	318197	197486	317580	617	196732	754	29038320	0.997341	0.00265861	6400
gcc	write allocate	write through	lru	318197	197486	317649	548	196744	742	28519863	0.997498	0.00250154	6400
swim	no write allocate	write through	fifo	220668	82525	220100	568	71643	10882	12180067	0.962235	0.0377647	6400
swim	no write allocate	write through	lru	220668	82525	220120	548	71647	10878	12052051	0.962314	0.0376856	6400
swim	write allocate	write back	fifo	220668	82525	220437	231	81714	811	10050581	0.996563	0.00343675	6400
swim	write allocate	write back	lru	220668	82525	220461	207	81725	800	9800957	0.996679	0.00332132	6400
swim	write allocate	write through	fifo	220668	82525	220437	231	81714	811	15223870	0.996563	0.00343675	6400
swim	write allocate	write through	lru	220668	82525	220461	207	81725	800	14999857	0.996679	0.00332132	6400

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty
gcc	no write allocate	write through	fifo	318197	197486	316692	1505	177729	19757	25061007	0.958769	0.0412308	3200
gcc	no write allocate	write through	lru	318197	197486	316753	1444	177758	19728	24865775	0.958944	0.0410562	3200
gcc	write allocate	write back	fifo	318197	197486	317386	811	196167	1319	9604098	0.99587	0.00413044	3200
gcc	write allocate	write back	lru	318197	197486	317455	742	196178	1308	9584829	0.996025	0.00397531	3200
gcc	write allocate	write through	fifo	318197	197486	317386	811	196167	1319	27079379	0.99587	0.00413044	3200
gcc	write allocate	write through	lru	318197	197486	317455	742	196178	1308	26823321	0.996025	0.00397531	3200
swim	no write allocate	write through	fifo	220668	82525	219723	945	70276	12249	11567444	0.956483	0.0435168	3200
swim	no write allocate	write through	lru	220668	82525	219723	945	70276	12249	11567444	0.956483	0.0435168	3200
swim	write allocate	write back	fifo	220668	82525	220351	317	80955	1570	8940259	0.993776	0.00622376	3200
swim	write allocate	write back	lru	220668	82525	220382	286	80968	1557	8761028	0.993921	0.00607864	3200
swim	write allocate	write through	fifo	220668	82525	220351	317	80955	1570	14592789	0.993776	0.00622376	3200
swim	write allocate	write through	lru	220668	82525	220382	286	80968	1557	14451971	0.993921	0.00607864	3200

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty	LRU V FIFO
gcc	no write allocate	write through	fifo	318197	197486	316680	1517	177694	19792	25099421	0.958678	0.0413219	3200	
gcc	no write allocate	write through	lru	318197	197486	316739	1458	177750	19736	24910618	0.958901	0.0410989	3200	
			FIFO/LRU			99.98%	104.05%	99.97%	100.28%					
gcc	write allocate	write back	fifo	318197	197486	317356	841	196160	1326	9696968	0.995798	0.00420219	3200	
gcc	write allocate	write back	lru	318197	197486	317433	764	196178	1308	9588091	0.995982	0.00401797	3200	
						99.98%	110.08%	99.99%	101.38%					
gcc	write allocate	write through	fifo	318197	197486	317356	841	196160	1326	27197842	0.995798	0.00420219	3200	
gcc	write allocate	write through	lru	318197	197486	317433	764	196178	1308	26893783	0.995982	0.00401797	3200	
swim	no write allocate	write through	fifo	220668	82525	219709	959	70265	12260	11612312	0.956401	0.0435993	3200	
swim	no write allocate	write through	lru	220668	82525	219718	950	70275	12250	11583513	0.956463	0.0435366	3200	
swim	write allocate	write back	fifo	220668	82525	220345	323	80960	1565	8844253	0.993773	0.00622706	3200	
swim	write allocate	write back	lru	220668	82525	220374	294	80967	1558	8757824	0.993892	0.00610832	3200	
swim	write allocate	write through	fifo	220668	82525	220345	323	80960	1565	14595988	0.993773	0.00622706	3200	
swim	write allocate	write through	lru	220668	82525	220374	294	80967	1558	14480766	0.993892	0.00610832	3200	

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty
gcc	no write allocate	write through	fifo	318197	197486	315804	2393	173661	23825	24069799	0.949159	0.0508413	1600
gcc	no write allocate	write through	lru	318197	197486	315859	2338	173694	23792	23981777	0.949329	0.0506707	1600
gcc	write allocate	write back	fifo	318197	197486	317010	1187	195075	2411	7850669	0.993023	0.00697715	1600
gcc	write allocate	write back	lru	318197	197486	317097	1100	195090	2396	7837782	0.993221	0.00677936	1600
gcc	write allocate	write through	fifo	318197	197486	317010	1187	195075	2411	26019258	0.993023	0.00697715	1600
gcc	write allocate	write through	lru	318197	197486	317097	1100	195090	2396	25855986	0.993221	0.00677936	1600
swim	no write allocate	write through	fifo	220668	82525	218957	1711	67747	14778	11278591	0.945615	0.0543845	1600
swim	no write allocate	write through	lru	220668	82525	218967	1701	67753	14772	11262587	0.945668	0.0543317	1600
swim	write allocate	write back	fifo	220668	82525	220212	456	79448	3077	8189949	0.988347	0.0116526	1600
swim	write allocate	write back	lru	220668	82525	220250	418	79459	3066	8109911	0.988509	0.011491	1600
swim	write allocate	write through	fifo	220668	82525	220212	456	79448	3077	14205772	0.988347	0.0116526	1600
swim	write allocate	write through	lru	220668	82525	220250	418	79459	3066	14127345	0.988509	0.011491	1600

File	Write/No Write Allocate	Write through/back	LRU/FIFO	Total Loads	Total Stores	Load Hits	Load Misses	Store Hits	Store Misses	Total Cycles	Hit Rate	Miss Rate	Miss Penalty
gcc	no write allocate	write through	fifo	318197	197486	309695	8502	161301	36185	21928517	0.913344	0.0866559	200
gcc	no write allocate	write through	lru	318197	197486	309698	8499	161302	36184	21927915	0.913352	0.0866482	200
gcc	write allocate	write back	fifo	318197	197486	314332	3865	180047	17439	5418793	0.958688	0.0413122	200
gcc	write allocate	write back	lru	318197	197486	314483	3714	180096	17390	5391642	0.959076	0.0409244	200
gcc	write allocate	write through	fifo	318197	197486	314332	3865	180047	17439	24508754	0.958688	0.0413122	200
gcc	write allocate	write through	lru	318197	197486	314483	3714	180096	17390	24468652	0.959076	0.0409244	200
swim	no write allocate	write through	fifo	220668	82525	217452	3216	56603	25922	9172971	0.903896	0.0961038	200
swim	no write allocate	write through	lru	220668	82525	217452	3216	56603	25922	9172971	0.903896	0.0961038	200
swim	write allocate	write back	fifo	220668	82525	219350	1318	64021	18504	5040209	0.934623	0.0653775	200
swim	write allocate	write back	lru	220668	82525	219354	1314	64023	18502	5056605	0.934642	0.0653577	200
swim	write allocate	write through	fifo	220668	82525	219350	1318	64021	18504	12501605	0.934623	0.0653775	200
swim	write allocate	write through	lru	220668	82525	219354	1314	64023	18502	12500403	0.934642	0.0653577	200