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CS 224 Lab 6 Report
Section 4

Tables

Column Major

For 100x100 Matrix

Miss Count and Miss Rate

Cache Size -> Block Size (down)	256 bytes	512 bytes	1024 bytes	2048 bytes	4096 bytes
4	%52 miss rate 10406 count	%52 miss rate 10406 count	%52 miss rate 10406 count	%52 miss rate 10406 count	%52 miss rate 10406 count
8	%56 miss rate 11254 count	%56 miss rate 11254 count	%56 miss rate 11254 count	%56 miss rate 11254 count	%56 miss rate 11254 count
16	%53 miss rate 10627 count	%52 miss rate 10627 count	%53 miss rate 10627 count	%53 miss rate 10627 count	%53 miss rate 10627 count
32	%51 miss rate 10159 count	%51 miss rate 10159 count	%52 miss rate 10315 count	%51 miss rate 10159 count	%51 miss rate 10159 count
64	%51 miss rate 10159 count	%51 miss rate 10159 count	%51 miss rate 10159 count	%52 miss rate 10315 count	%51 miss rate 10159 count

For 200x200 Matrix

Cache Size-> Block Size(down)	256 bytes	512 bytes	1024 bytes	2048 bytes	4096 bytes
4	%61 miss rate 49720 count	%61 miss rate 49720 count	%62 miss rate 50006 count	%62 miss rate 50006 count	%61 miss rate 49720 count
8	%58 miss rate 47004 count	%56 miss rate 45004 count	%56 miss rate 45004 count	%56 miss rate 45004 count	%56 miss rate 43872 count
16	%53 miss rate 42502 count	%54 miss rate 43872 count	%53 miss rate 42502 count	%53 miss rate 42502 count	%53 miss rate 42502 count
32	%52 miss rate 41252 count	%52 miss rate 41252 count	%52 miss rate 41252 count	%52 miss rate 41252 count	%52 miss rate 41252 count
64	%51 miss rate 40627 count	%51 miss rate 40627 count	%51 miss rate 40627 count	%51 miss rate 40627 count	%51 miss rate 40627 count

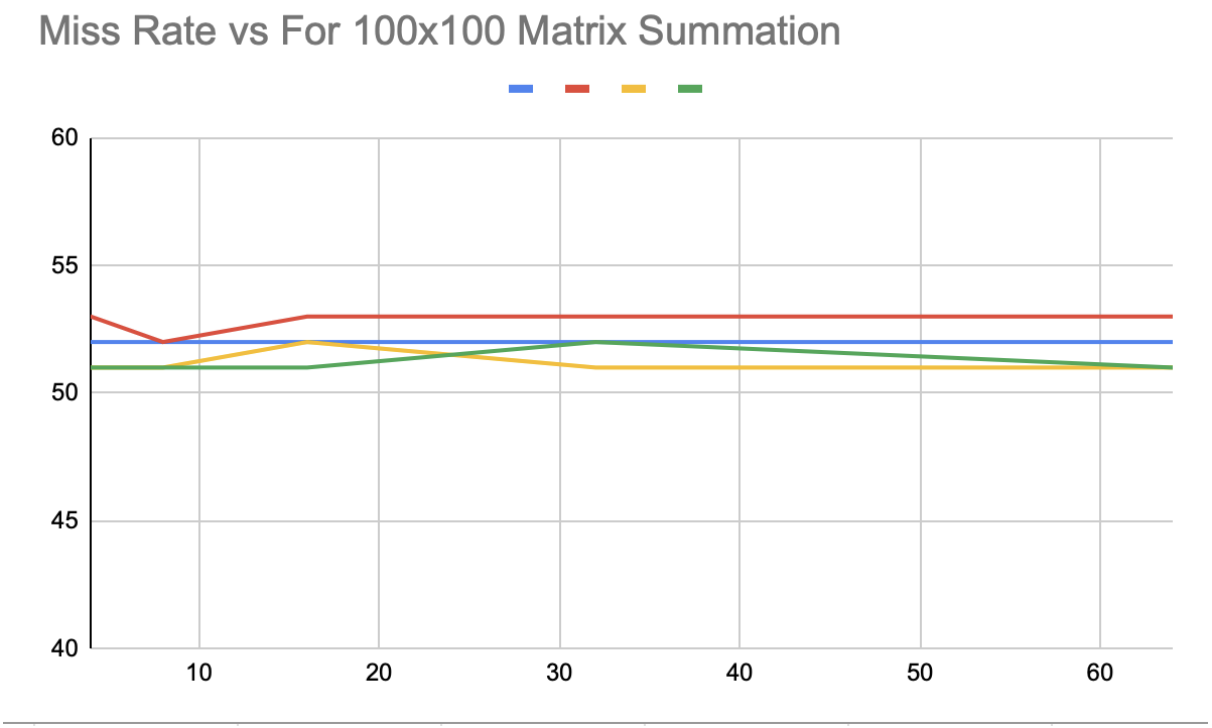
Row Major:
For 100x100 Matrix
Miss Rate and Miss Counts

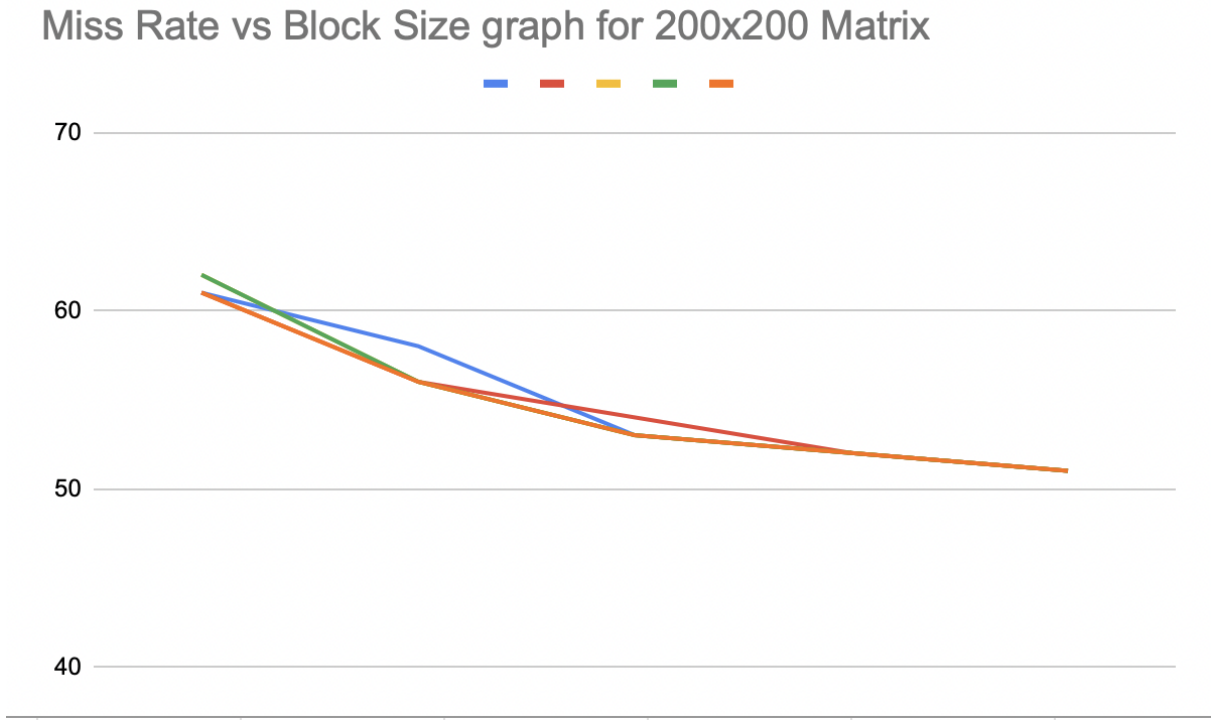
Cache Size-> Block Size(down)	256 bytes	512 bytes	1024 bytes	2048 bytes	4096 bytes
4	%52 miss rate 10406 count	%53 miss rate 10627 count	%52 miss rate 10406 count	%52 miss rate 10387 count	%50 miss rate 10022 count
8	%56 miss rate 11254 count	%56 miss rate 11254 count	%56 miss rate 11254 count	%55 miss rate 11003 count	%54 miss rate 10900 count
16	%53 miss rate 10625 count	%53 miss rate 10624 count	%53 miss rate 10627 count	%52 miss rate 10406 count	%51 miss rate 10159 count
32	%51 miss rate 10159 count	%51 miss rate 10159 count	%51 miss rate 10159 count	%51 miss rate 10159 count	%51 miss rate 10159 count
64	%50 miss rate 10030 count	%50 miss rate 10030 count	%50 miss rate 10030 count	%50 miss rate 10030 count	%49 miss rate 9832 count

For 200x200 Matrix

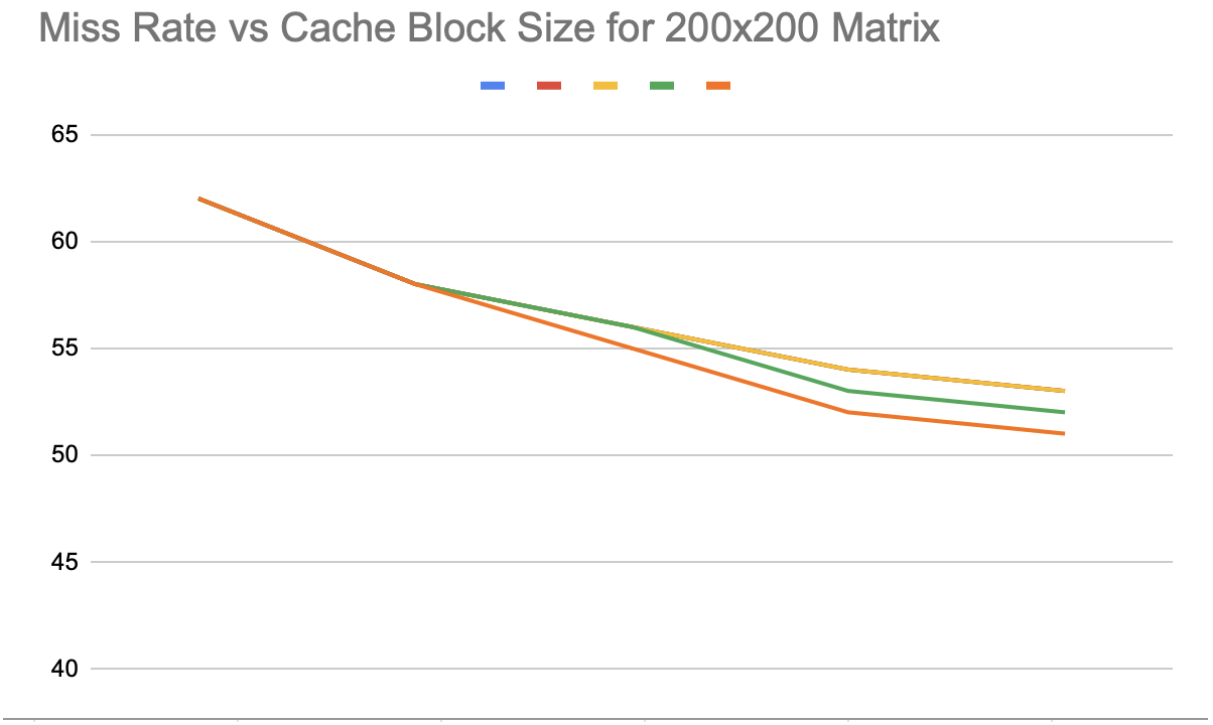
Cache Size-> Block Size (down)	256 bytes	512 bytes	1024 bytes	2048 bytes	4096 bytes
4	%62 miss rate 50006 count	%62 miss rate 50006 count	%62 miss rate 50006 count	%62 miss rate 50006 count	%62 miss rate 50006 count
8	%58 miss rate 46420 count	%58 miss rate 46420 count	%58 miss rate 46420 count	%58 miss rate 46420 count	%58 miss rate 46420 count
16	%56 miss rate 45004 count	%56 miss rate 45004 count	%56 miss rate 45004 count	%56 miss rate 45004 count	%55 miss rate 43 count
32	%54 miss rate 43202 count	%54 miss rate 43202 count	%54 miss rate 43202 count	%53 miss rate 42420 count	%52 miss rate 41580 count
64	%53 miss rate 42404 count	%53 miss rate 42404 countt	%53 miss rate 42404 count	%52 miss rate 41600 count	%51 miss rate 40830 count

Row Major


Miss Rate vs For 100x100 Matrix Summation
60
55
50
45
40
10
20
30
40
50
60

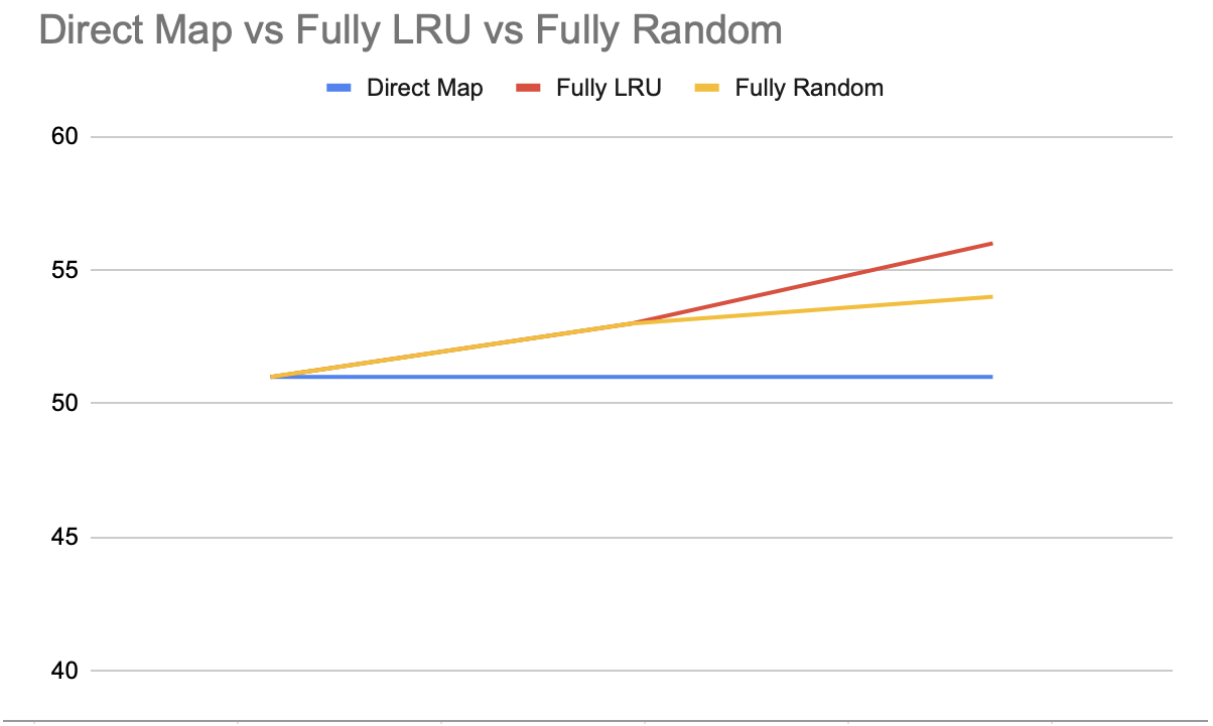

Miss Rate vs Block Size graph for 200x200 Matrix
70
60
50
40

Column Major

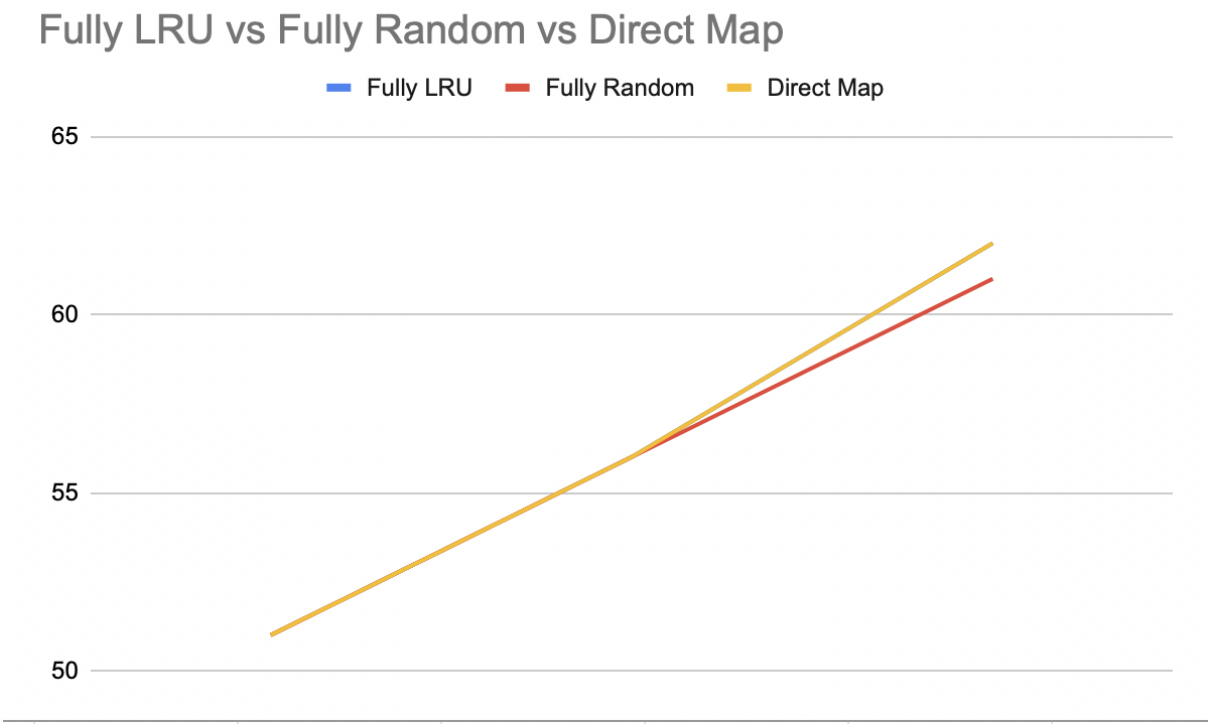


Fully Associative Caches

Type Configuration	Direct Map	Fully LRU	Fully Random
Good Cache Block Size 64 Cache Size 1024 bytes 100x100	**miss rate:%51** **miss count:10159**	**miss rate %51** **miss count:10159**	**miss rate %51** **miss count:10159**
Medium Cache Block Size 16 Cache Size 1024 bytes 100x100	**miss rate %53** **miss count:10627**	**miss rate %53** **miss count 10618**	**miss rate %53** **miss count:10615**
Poor Cache Block Size 8 Cache Size 1024 bytes 100x100	**miss rate %56** **miss count:11254**	**miss rate %56** **miss count 11253**	**miss rate %54** **miss count:10839**



Type Configuration	Direct Map	Fully LRU	Fully Random
Good Cache Block Size 64 Cache Size 1024 bytes 200x200	**miss rate:%51** **miss count:40627**	**miss rate %51** **miss count:40627**	**miss rate %51** **miss count:40627**
Medium Cache Block Size 8 Cache Size 1024 bytes 200x200	**miss rate %56** **miss count:45004**	**miss rate %56** **miss count 45002**	**miss rate %56** **miss count:44942**
Poor Cache Block Size 4 Cache Size 1024 bytes 200x200	**miss rate %62** **miss count:50007**	**miss rate %62** **miss count 50005**	**miss rate %61** **miss count 48543**



N Way Cache

Good
Cache Block Size 64
Cache Size 2048 bytes
200x200

Set Size	**1**	**2**	**4**	**8**
Rates	Miss Rate %51 Miss Count:40627	Miss Rate %51 Miss Count:40627	Miss Rate %51 Miss Count:40627	Miss Rate %51 Miss Count:40627

Medium
Cache Block Size 8
Cache Size 1024 bytes
100x100

Set Size	**1**	**2**	**4**	**8**
Rates	Miss Rate %56 Miss Count:45003	Miss Rate %55 Miss Count:10995	Miss Rate %54 Miss Count:10914	Miss Rate:%54 Miss Count:10858

Poor
Cache Block Size 4
Cache Size 1024 bytes
100x100

Set Size	**1**	**2**	**4**	**8**
Rates	**%52 miss rate 10405 miss count**	**%52 miss rate 10385 miss count**	**%51 miss rate 10198 miss count**	**%51 miss rate 10168 miss count**