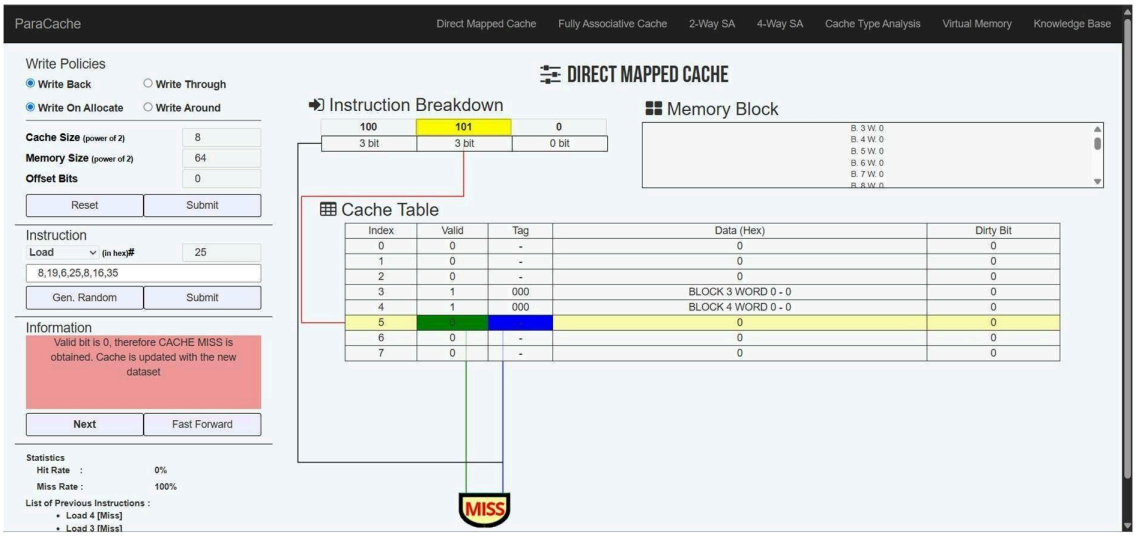
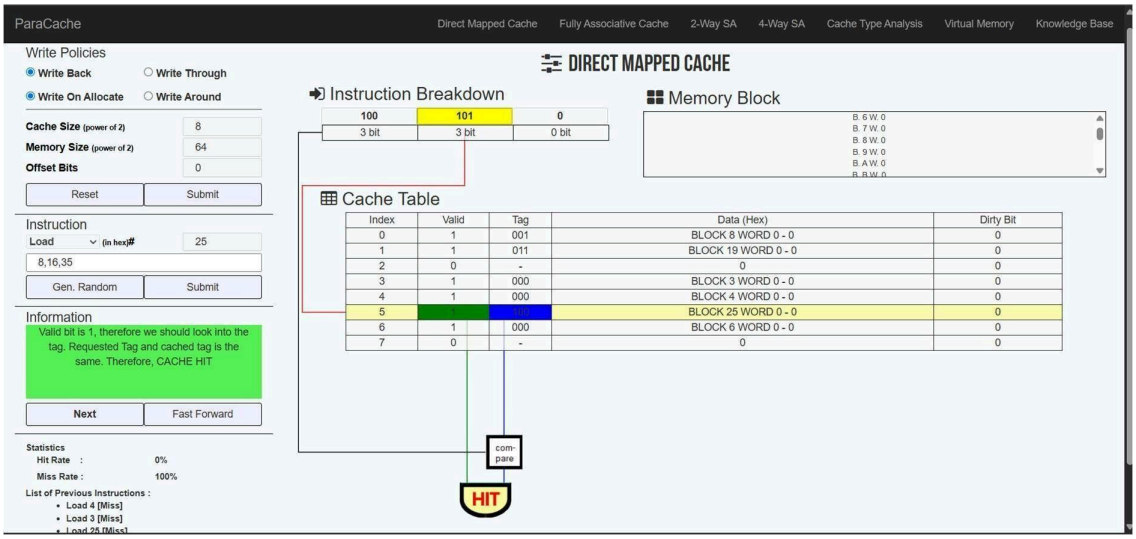
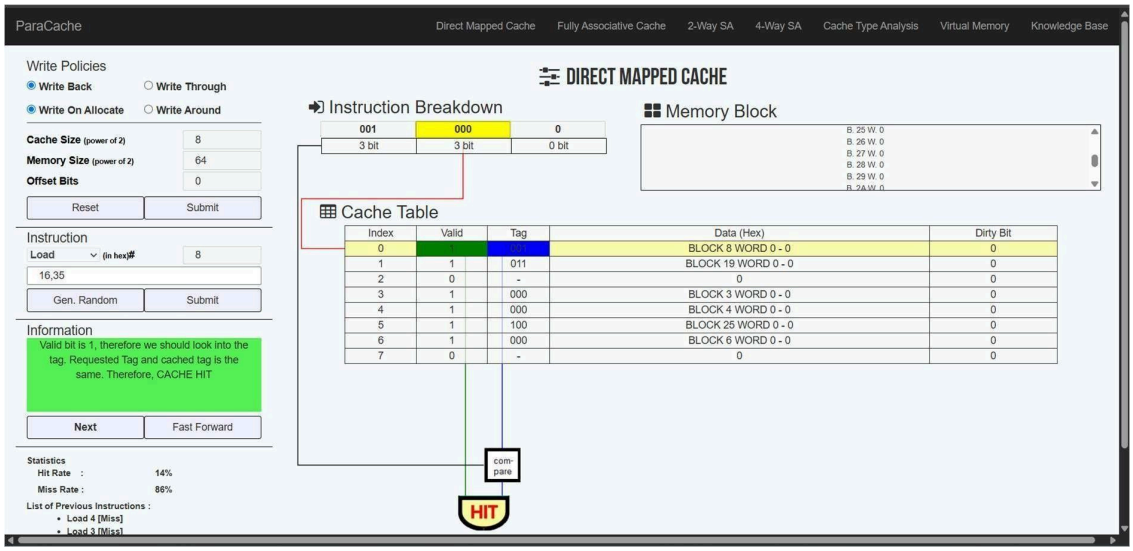
WEEK 7 submission

Department	Computer Science
Campus	RR

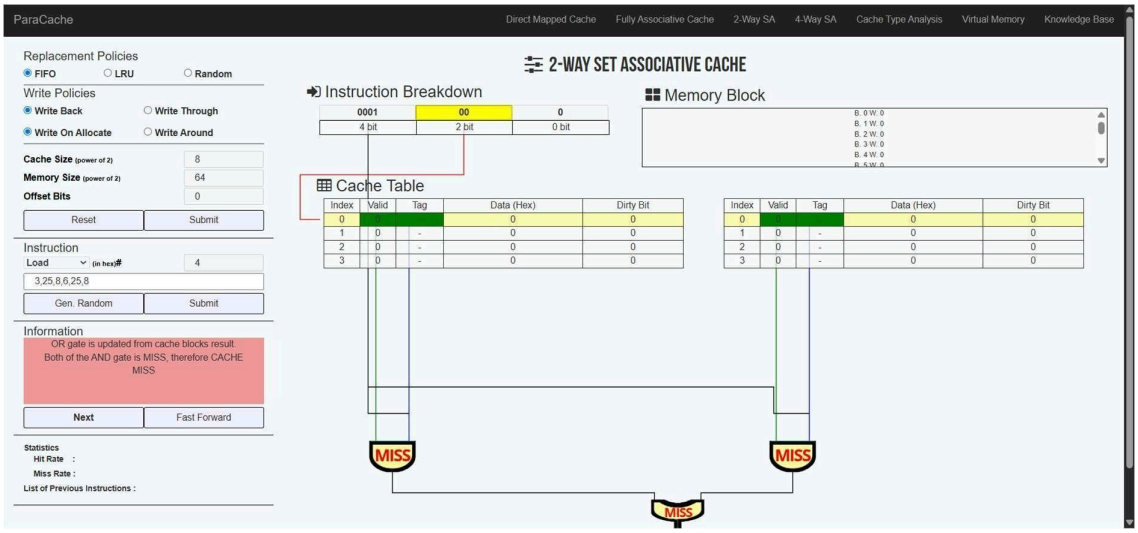
Direct Mapping:

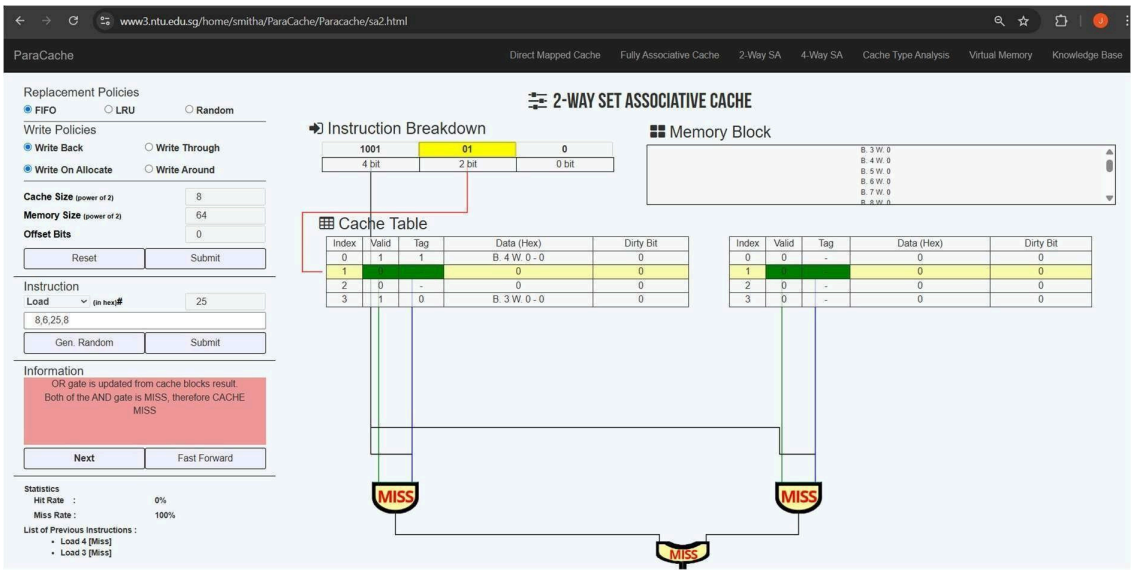


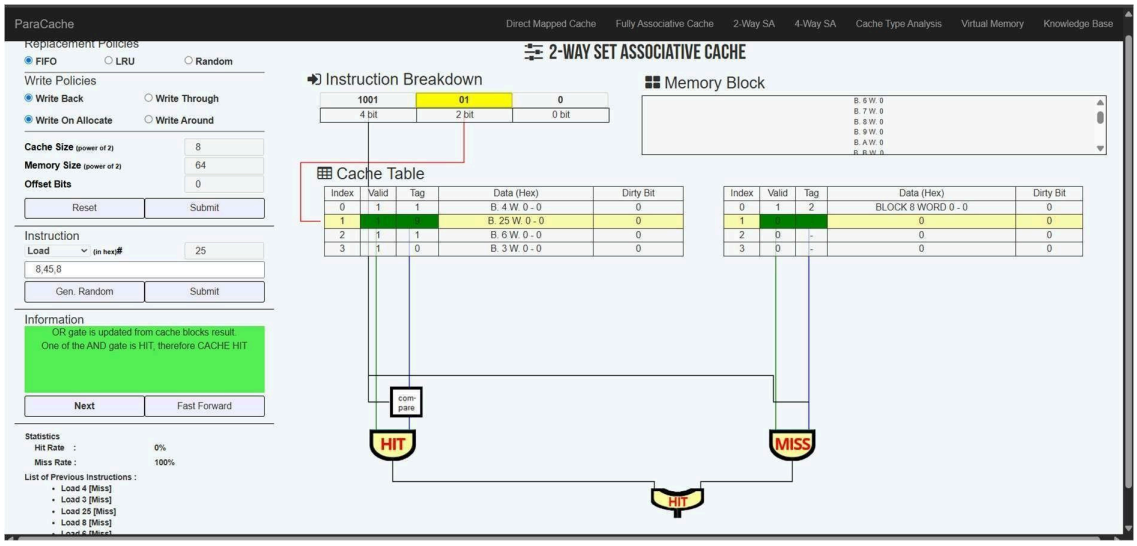


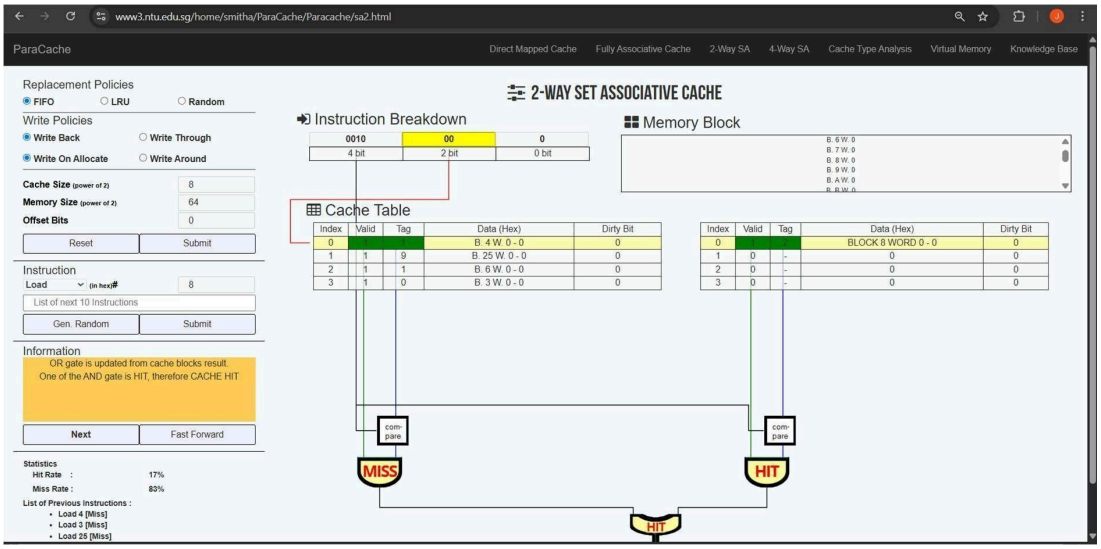


2 Way Set Associative






ParaCache
Direct Mapped Cache
Fully Associative Cache
2-Way SA
4-Way SA
Cache Type Analysis
Virtual Memory
Knowledge Base
Replacement Policies
FIFO
LRU
Random
Write Policies
Write Back
Write Through
Write On Allocate
Write Around
Cache Size (power of 2)
8
Memory Size (power of 2)
64
Offset Bits
0
Reset
Submit
Instruction
Load
(in hex)#
25
8,45,8
Gen. Random
Submit
Information
OR gate is updated from cache blocks result.
One of the AND gate is HIT, therefore CACHE HIT
Next
Fast Forward
Statistics
Hit Rate :
0%
Miss Rate :
100%
List of Previous Instructions :
Load 4 [Miss]
Load 3 [Miss]
Load 25 [Miss]
Load 8 [Miss]
2-WAY SET ASSOCIATIVE CACHE
Instruction Breakdown
1001
01
0
4 bit
2 bit
0 bit
Memory Block
B. 6 W. 0
B. 7 W. 0
B. 8 W. 0
B. 9 W. 0
B. A W. 0
Cache Table
Index
Valid
Tag
Data (Hex)
Dirty Bit
0
1
1
B. 4 W. 0 - 0
0
1
1
2
B. 25 W. 0 - 0
0
2
1
1
B. 6 W. 0 - 0
0
3
1
0
B. 3 W. 0 - 0
0
Index
Valid
Tag
Data (Hex)
Dirty Bit
0
1
2
BLOCK 8 WORD 0 - 0
0
1
0
0
0
2
0
-
0
0
3
0
-
0
0
com-
pare
HIT
MISS
HIT


www3.ntu.edu.sg/home/smitha/ParaCache/Paracache/sa2.html
ParaCache
Direct Mapped Cache
Fully Associative Cache
2-Way SA
4-Way SA
Cache Type Analysis
Virtual Memory
Knowledge Base
Replacement Policies
FIFO
LRU
Random
Write Policies
Write Back
Write Through
Write On Allocate
Write Around
Cache Size (power of 2)
8
Memory Size (power of 2)
64
Offset Bits
0
Reset
Submit
Instruction
Load
(in hex)#
8
List of next 10 Instructions
Gen. Random
Submit
Information
OR gate is updated from cache blocks result.
One of the AND gate is HIT, therefore CACHE HIT
Next
Fast Forward
Statistics
Hit Rate :
17%
Miss Rate :
83%
List of Previous Instructions :
Load 4 [Miss]
Load 3 [Miss]
Load 25 [Miss]
2-WAY SET ASSOCIATIVE CACHE
Instruction Breakdown
0010
00
0
4 bit
2 bit
0 bit
Memory Block
B. 6 W. 0
B. 7 W. 0
B. 8 W. 0
B. 9 W. 0
B. A W. 0
Cache Table
Index
Valid
Tag
Data (Hex)
Dirty Bit
0
0
B. 4 W. 0 - 0
0
1
1
9
B. 25 W. 0 - 0
0
2
1
1
B. 6 W. 0 - 0
0
3
1
0
B. 3 W. 0 - 0
0
Index
Valid
Tag
Data (Hex)
Dirty Bit
0
0
BLOCK 8 WORD 0 - 0
0
1
0
-
0
0
2
0
-
0
0
3
0
-
0
0
com-
pare
MISS
HIT
HIT