## Saturday COA -Assignment - 11

1AM) Given, cache sixe = 1024 = 210 line size = 64=26  $\times 10.0$  of lines in cache =  $\frac{2^{10}}{16} = 24$ Offset 000001 -> Block O 0×0001 --> 0000 0000 00 000010 -> cache hit 0 x 0002 -> 0000 0000 00 000011 -> cache hit 0 x 0003 ->0000 0000 00 000001 -> Block 1  $0 \times 0041 \rightarrow 0000$ 0000 01 DODOODI -> Block 2 0 x 0081 -> 0000 0000 10 100001 - cache hit  $0 \times 0041 \rightarrow 0000$ 0000 10 0 x 00C1 ->0000 0000 00001 -> Block 3 11 0 x 0401 -> 0000 0100 00 000001 -> Block 16

 $0 \times 0402 \rightarrow 0000 0100 00 000010 \rightarrow cache hit$ 

 $0 \times 00001 \rightarrow 0000 000 00 0000001 \rightarrow Block 0$  $0 \times 00002 \rightarrow 0000 000 000 0000000 \rightarrow Cache hit$ 

B x0003 → 0000 0000 00 000011 → cache hit

15 SUNDAY \_ 1. From the above resulte

Total 6 cache hit's are occured.

2Am) If the cache in Q1 was 2-way set associative No. of 8th = No. of linee K

$$= \frac{16}{2} = \boxed{6}$$

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## OCTOBER- 2020

S M T W T F S S M T W T F S S M T W T F S S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



Monday

3AN) Given,

Line size = 168 => offset = 4

No. of lines = 
$$\frac{12813}{1618}$$
 = 8.

=> 4 way set associative -No. of set = 8/4 = 2 • LRU performs better than LFU -

,				LRU	LFU
Address	offeet	Selindex	Tag	HAT (or) Mils	+H+ (or) Miss
10000010	2	O	4	Miss	Mils
10000011	3	0	4	Hit	+4+
10000110	6	0	4	<del>()</del> \$t	Hit
10/00111	7	Ø	5	Miss	Miss
0/00/000	8	0	2	XXIIS	Miss
01000011	3	0	2	Hit	Hit
01100001	1	Ó	3	Miss	Mus
10100000	0	_	5	<del>√)}</del> t	4111
	2	0	в	Miss	Miss
011000010	4	0	(8	<del>4)</del> ît	Mis
011 00 (00	7	V	0		

From the above results Clearly we can observe that LRU has 5 cache hits and LFU has only 4 cache hits. So, Hen LRU performs better than LFU.

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## Tuesday

	IFI)	portare	Lalke-	10	
-		performs	bent	Thous	LRU.

				LRU	LFU
Address	Offset	setinden	Tag	Hit (or) Miss	thit los m
10000010	2	0	4	Miss	Mis
10000011	3	0	4	Hit	Hit
10000100	4	0	Н	Miss	+H+
11000010	2	0	6	Mics	Miss
10000110	6	0	4	Hit	Hit
10100000	0	0	5	+)St	Hit
01000001	110,	0	2	1 St	Hit
01100111	7	D	3	Misc	Mus
10101000	8	0	5	Mics	Miss
01000011	3	0	2	Miss	Miss
From	n the a	bove results,		The state of the s	observe
that LFU	has 5	cache hits a	NO IRU	has only	
hits.	111				, conce

So, Here LFU performs beffer than LEU.

5Am) Given a fully associative cache-

20,21,22,23,24,25,26,27,28,29,22,30,21,28,31 Cache sixe = 8 words

L'ene size=2

No. of lines = 8/2 = [4]

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OCTOBER- 2020 M T TFSS M 7 8 9 10 11 12 13 14 2 3 5 17 18 21 22 28 29 30 23 24 26



Segmence	cache confert X	Wednesday
20	(20,21)	Mill
21	(20,21)	hit
22	(20,21)(22,23)	Muss
23	(20,22) (22,23)	tift
24.	(20,21) (22,23) (24,25)	Mils
25	(20,21) (22,23) (24,25)	Hit
26	(26,27) (20,21) (22,23) (24,25	) Miss
27	(26,27) (20,21) (22,23) (24,2)	
28	(22,23) (24,25) (26,27) (26,2	s) Mis
. 29	(22,23) (24,25) (26,27) (28,2	19) Hit
22	(22,23) (24,25) (26,27) (28	129) thit
30	(22,23) (26,27) (24,29) (30,31)	) Mill
21	(22,23) (28,29) (30,31) (20,4)	MILL
23	(22,23) (28,27) (30,21) (20,21)	) Hit
31	(22,23) (28,29) (20,31) (20,21)	Hit

Content in cache affer all executions = (30,31) (22,23)(20,21) (24,29).

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													and the same of the same			DECEMBER - 2020					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
20	21	22	23	24	25	26	27	28	29	30	31										

## Thursday

GAM) Klhen cache is 2 way associative No. of set = 4/2 = [2]

Sequence cashe content Miss (20,21) $\left((20,2)\right)$ . Miss $\left((20,2)\right)$ $\left((20,2)\right)$ $\left((20,2)\right)$ $\left((22,23)\right)$ $\left((22,23)\right)$ $\left((22,23)\right)$
$22 \qquad [(20,2)] \qquad Hit \qquad Mill$
$22 \qquad \left[ (20,21) \right] \left[ (22,23) \right] \qquad \text{Miss}$
700
(20,21))(22,23)
24 (20,21) (27,23) (24,25) Miss
25 [(20,2)](24,23)](24,25)
26 (20,21) (22,23) (24,25) (26,27) Mill
27 ((20,2)) (22,23) (24,25) (26,27) Hist
28 [(24,29)(24,25)(22,23)(30,31)] MISS
29 (24,29) (24,25) (30,31) Hit
22 [(26,27)](24,25)](22,23)((30,31)] Hit
30 (28,29) (24,25) (22,23) (30,31) Miss
21 (24,29) (24,45) (7(22,23) (30,31) Miss
23 [(21,29) (24,25) [122,23) (36,31) Hit
31 [(21,25)(24,25)] (22,23)(30,31)] HH

Total Lite = 8, +HH Roctio = 8 = 0.53

Cache in after all enecutions are - [(20,29) (20,21)][(22,23)(30,31)]

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O	CLOB	ER- 2	020																	
S	M	T	W	T	F	S	S	M	Т	W	Т	F	S	9	N.A.	_			F	
18	19	20	21	22	2 23	3 24	4 25	5 26	6 27	7 28	8 29	9	10	11	12	13	W 14	T 15	F 16	S 17