4.) String of hex address references as byte addresses : 1, 2, 3, 1A, A, 1B, 16, 14, 3, 12, 9, 23, 3A, 5, 19, 1, 9

1.) total size (Direct Mapped Cache) = 16 bytes

line size = 1 byte = $2^0 \rightarrow 0$ bits offset

A B C D E F
10 11 12 13 14 15

128 64 32 16 8 4 2 1

0 1 2 3A 3 9
1 1A 1B 16 14 12
2
3

T	S	
0000	0001	= 1
0000	0010	= 2
0000	0011	= 3
0001	1010	= 1A
0000	1010	= A
0001	1011	= 1B
0001	0110	= 16
0001	0100	= 14
0001	0010	= 12
0000	1001	= 9
0010	0011	= 23
0011	1010	= 58
0000	0101	= 5
0001	1001	= 19

17 caches accesses

Reference	Hit / Miss
1	Miss
2	Miss
3	Miss
1A = 26	Miss
A = 10	Miss
1B = 27	Miss
16	Miss
14	Miss
3	Hit ✓
12	Miss
9	Miss
23	Miss
3A = 58	Miss
5	Miss
19	Miss
1	Hit ✓
9	Miss

set	TAG	
1, 5, 9	0	0001, 0101, 1001
2, 4, 6, 11	1	0010, 0100, 0110, 1011
3	2	0011
10	3	1010

Hit Rate = 2/17

0000 0001 = 1   0000 0001

0000 0010 = 2

0000 0011 = 3

0001 1010 (1A), 0001 1011 (B)

0000 1010 (A)   0000 1001 = 9

0001 0000 = 16   0000 1100 = 12

0001 1110 = 14

0000 1001 = 9

0001 0111 = 23

0011 1010 = 3A

0000 0101 = 5

0001 0011 = 19

2.) Direct Mapped Cache = 16 bytes

Line Size = 4 bytes

0000 0011
0000 1110
3
0001 0100
0000 0011

Reference	Hit / Miss
1	Miss
2	Hit ✓
3	Hit ✓
1A	Miss
A	Miss
1B	Miss
16	Miss
14	Hit ✓

Set	TAG
0	0
1	0
2	0
3	

$\log_2 16 = 4$ set

$\log_2 4 = 2$ offset

Tag 4 | Set 2 | offset 2