

Cache Example

0	00000	A	
1	00001	B	
2	00010	C	
3	00011	D	
arr1[0]	4	00100	E
1	5	00101	F
2	6	00110	G
3	7	00111	H
4	8	01000	I
5	9	01001	J
6	10	01010	K
7	11	01011	L
12	01100	M	
13	01101	N	
14	01110	O	
15	01111	P	
16	10000	Q	
17	10001	R	
18	10010	S	
19	10011	T	
20	10100	U	
21	10101	V	
22	10110	W	
23	10111	X	
24	11000	Y	
25	11001	Z	
26	11010	a	
27	11011	b	
28	11100	c	
29	11101	d	
30	11110	e	
31	11111	f	

4 misses

4 hits

50% miss rate

2 misses

6 hits

25% miss rate

4 misses

4 hits

50% miss rate

	0	1
00	I	J
01	K	L
10	E	F
11	G	H

Direct Mapped

C = 8

S = 4

s = 2

E = 1

B = 2

b = 1

	00	01	10	11
0	I	J	K	L
1	E	F	G	H

Direct Mapped

C = 8

S = 2

s = 1

E = 1

B = 4

b = 2

	0	1	0	1
0	E	F	I	J
1	G	H	K	L

C = 8

S = 2

s = 1

E = 2

B = 2

b = 1

2-way set associative

```
char arr1[8]; // &arr1[0] = 4

// Example 1
for (int i = 0; i < 8; i++){
    printf("arr1[%d] is %c\n", i, arr1[i]);
}
```