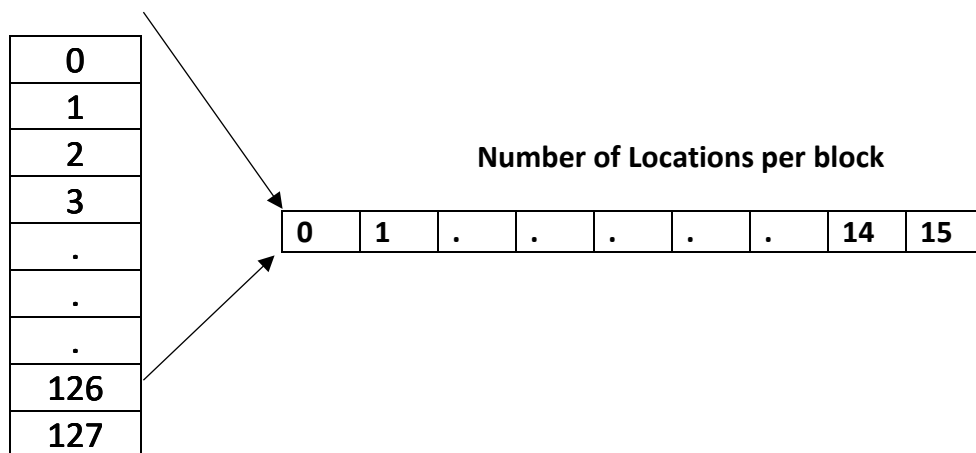


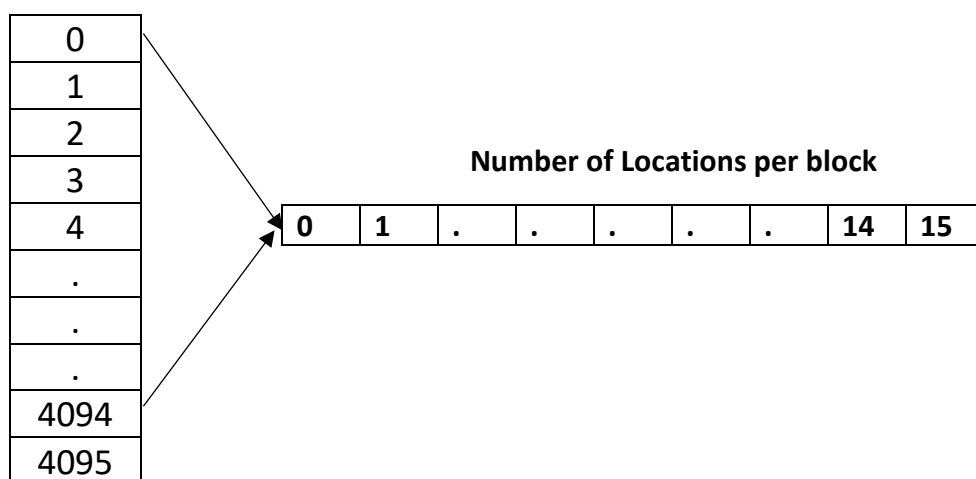
DIRECT CACHE MAPPING

Cache = 128 = 2^7



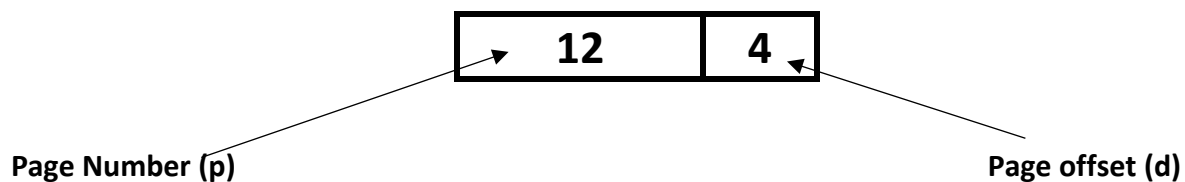
Memory = 4096 (4 KB) = 2^{12}

$2^{10} = 1024, 2^{11} = 2048, 2^{12} = 4096$



Cache Address = $2^7 \times 2^4$ (16 locations) = 2^{11}

Memory Address = $2^{12} \times 2^4$ (16 locations) = 2^{16} = 16 bit Address



Memory = 4096, Cache = 128 —————> Total number of blocks in main memory

(4096/128)

$2^{12} / 2^7 = 2^5 = 32$ blocks

0	1	2	3	blocks	31
0	128	256	384	.	3968
1	129	257	385	.	3969
2	130	258	386	.	.
.
.
.
126	254	382	510	.	4094
127	255	383	511	.	4095

Tag	Cache	0	1	2	3	blocks	31
1	128	0	128	256	384	.	3968
3	385	1	129	257	385	.	3969
31	3970	2	130	258	386	.	3970
.	
.	
.	
0	126	126	254	382	510	.	4094
31	4095	127	255	383	511	.	4095

Tag = 32 Blocks (0 - 31)

Cache = 128 (0 - 127)