

9 Calculation

$$IB = 8 \text{ bit} = 2^3 \text{ bit. } K = 2^{10}, M = 2^{20}, G = 2^{30}$$

$$\begin{aligned} 2^0 &= 1 & 2^5 &= 32 & 2^{10} &= 1024 \\ 2^1 &= 2 & 2^6 &= 64 & 2^{11} &= 2048 \\ 2^2 &= 4 & 2^7 &= 128 & 2^{12} &= 4096 \\ 2^3 &= 8 & 2^8 &= 256 & 2^{13} &= 8192 \\ 2^4 &= 16 & 2^9 &= 512 & 2^{14} &= 16384 \end{aligned}$$

Dec	Bin	Hex
0	0000	0
1	0001	1
2	0010	2
3	0011	3
4	0100	4
5	0101	5
6	0110	6
7	0111	7
8	1000	8
9	1001	9
10	1010	A
11	1011	B
12	1100	C
13	1101	D
14	1110	E
15	1111	F

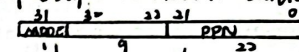
5 Lab.

CSR (Control/Status Reg).

`mstatus` 全局状态 (中断屏蔽, 特权等级)
`mtvec` Machine Trap Vector Base Address Trap handler 入口地址
`mepc` Machine Exception Program Counter Trap 出口指令地址 (异常发生前指令)
`mtval` Machine Trap Value 异常信息 (异常地址, 异常指令编号等)

`sstatus` mstatus 的子集

`satp` Supervisor Address Translation And Protection



MODE 寄存器 5-32, ASID 寄存器 20-28

`sfence.vma` 在设置 `satp` 切换进程后, flush TLB

`fence.i` 将程序写入内存后, 同步指令流, 将 D-Cache 脏行写回内存, 冲回 I-Cache