week1,system application software hardware

resource sharing ,space time

batch timesharing embbed

ram rom区别

device driver:CPU发要打印的指令给dd,dd poll controller看是不是free，DMA偷取CPU，从MAIN MEMORY慢慢把数据转移到 controller的buffer里，

完成以后,controller interrupt,

3.many to many many to one, one to one

足够空间one to one足够效率many to one

lock 标准

lock =f

while lock=t{EI,YIELD,DI}