CS326-01 Lab Project04 Help

√ Kpages() — Kalloc freelist

√ vdirs()/kdirs() — freewalk()

smem() — smem() system call
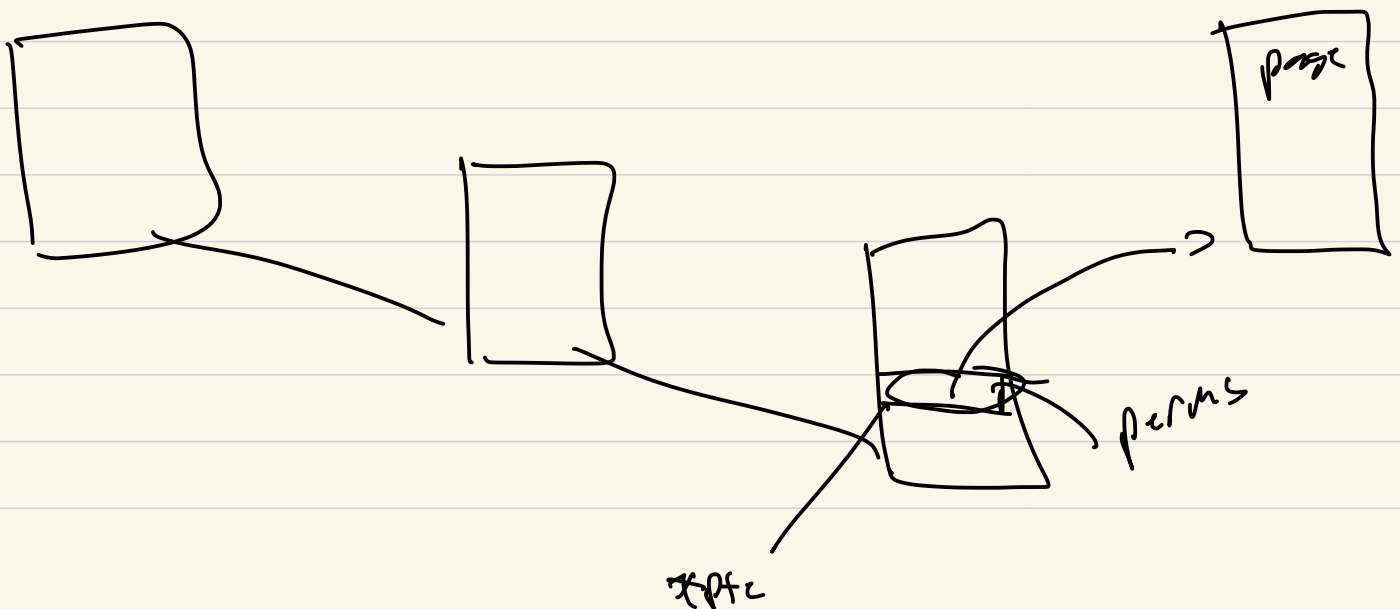
① proc.c: growproc()
  vm.c: uvmalloc() } sbrk()

② fork() inherit the shared
  memory region

  vm.c: uvmcopy()

③ freeproc()

  vm.c: uvmunmap()

kalloc.c

PHYSTOP

Kmem.freelist

next

next

next

r   p   next

Kernel
Data

Kernel
CODE

2GB

0x80000000

O
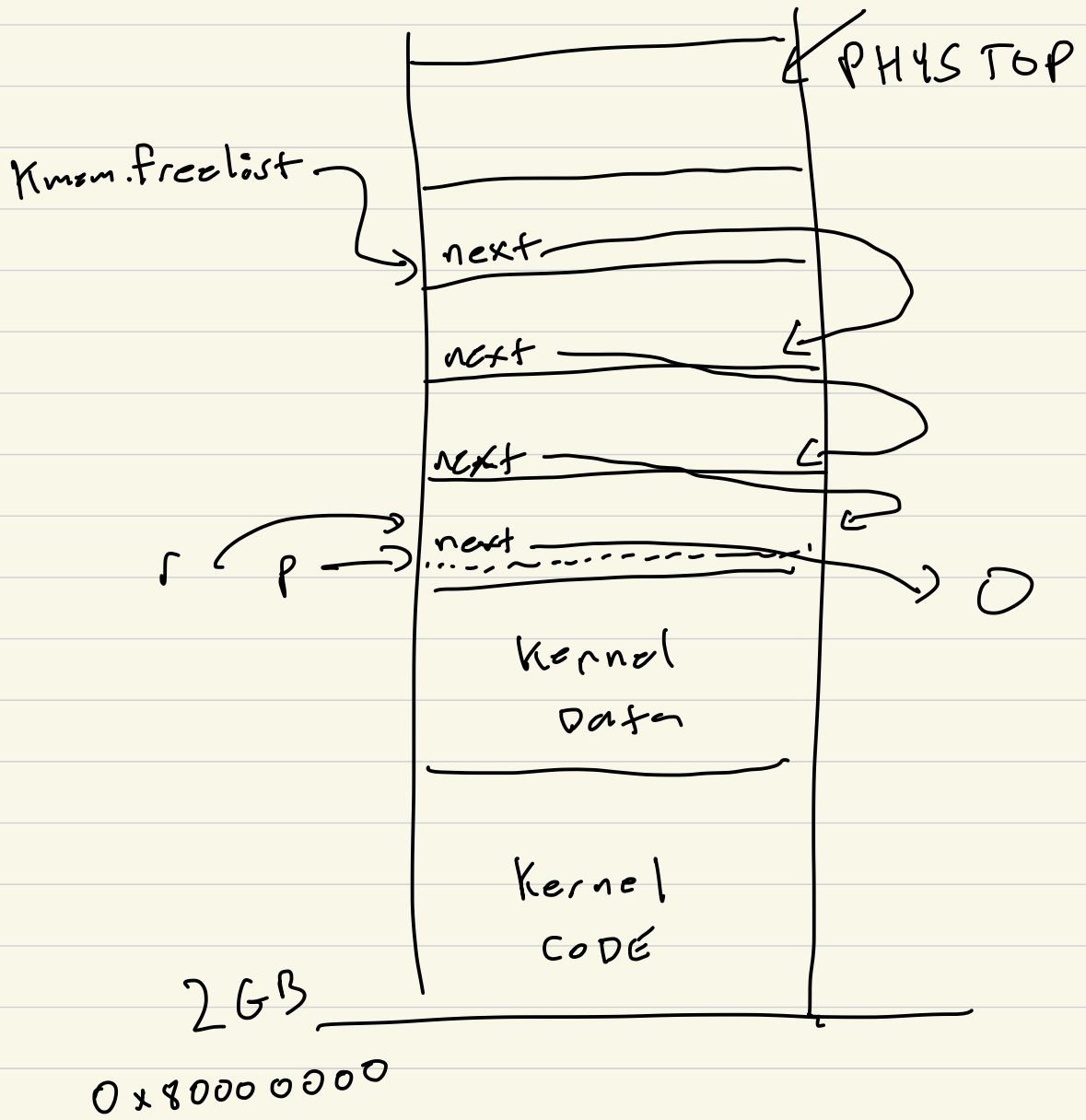
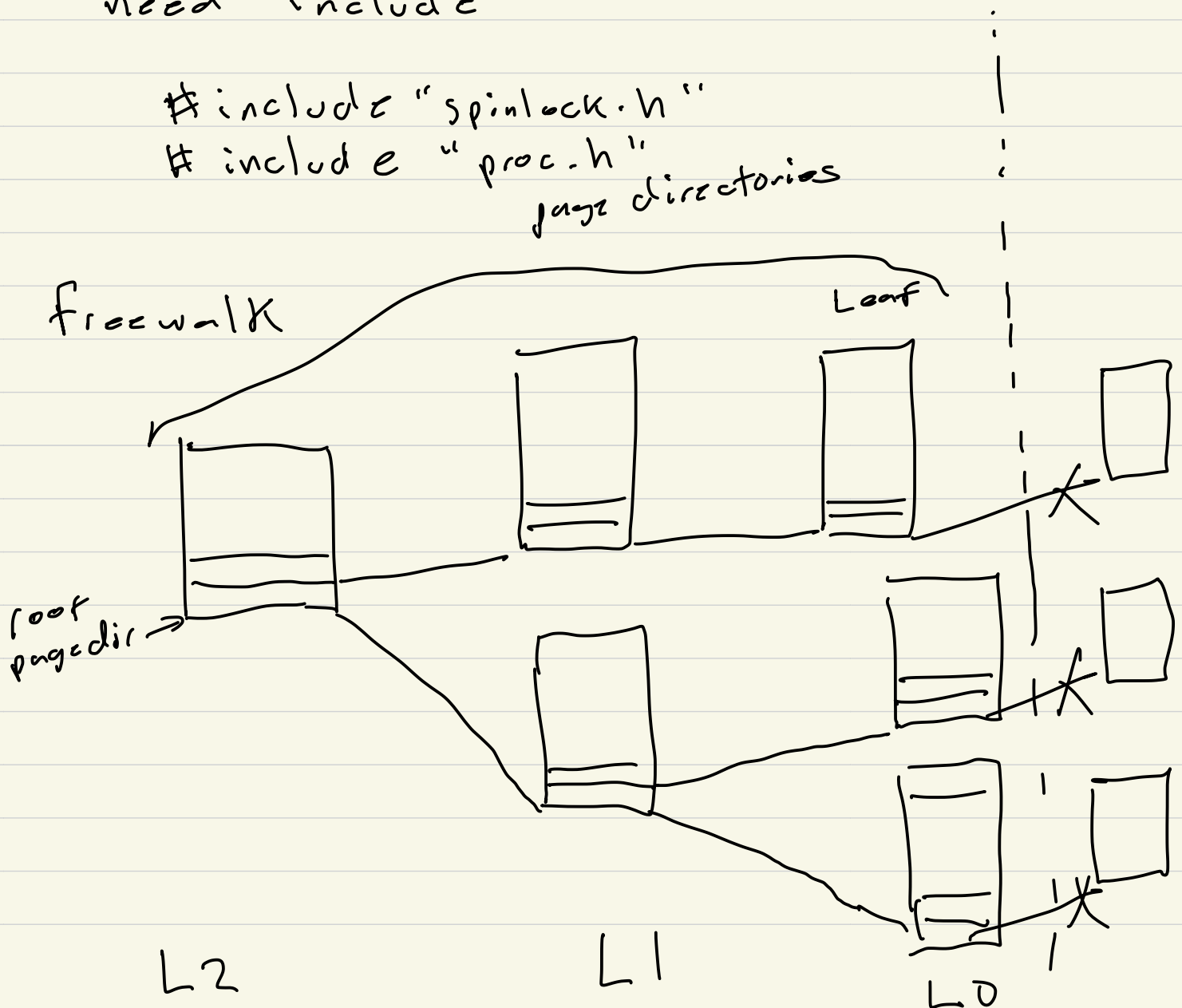udirs() / Kdirs()

Counting the number of allocated
page directories for a pagetable

udirs() $\longrightarrow$ myproc() $\rightarrow$ pagetable ⎤
                                                    ⎥ pointer
kdirs() $\longrightarrow$ kernel_pagetable ⎦

myproc() in vm.c
  need include

  #include "spinlock.h"
  #include "proc.h"

                        page directories

freewalk

                                        Leaf

root
pagedir $\rightarrow$

L2   L1   L0

Smem

fork()

PA

SMEM

SZ→ HEAP
STACK
DATA
CODE

not a
copy

copy

PB

HEAP
STACK
DATA
CODE

Phys Pasg