Part 2

Addressing Space

Stack

D - E: Demand allocate
B - C: Demand allocate
A - B: map file

PC = A fetch → fault
read file
allow page
read B

If we have a memory shortage above - we
have to free some space in the PTE to
write the new page

Address spaces
D - E: Common
B - C: Common
A - B: map & I/O

Memory shortage
deadlock
thrashing

A working set - data/code/etc. being used by the prog.
active data (first print)
Virtual Machines

```plaintext
char memory [ ]
int eax, ebx, ...

while (1)
    inst = *pc
    switch (inst) {
        case mov:
            ebx = eax
        case ...
    }
```

Paravirtualization

- Trap
- Load CR3
- Modify the OS