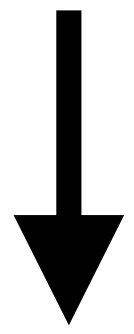
Running multiple programs concurrently

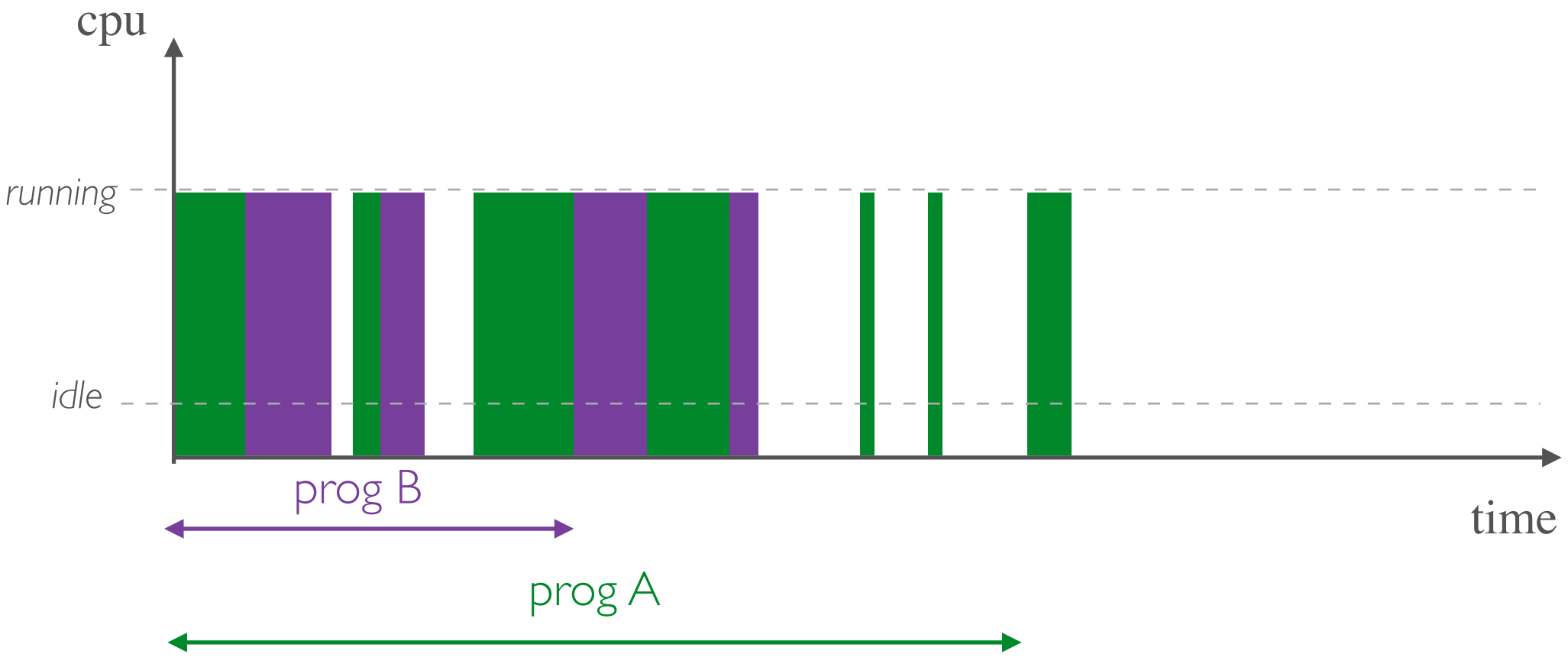
prog A

stack A

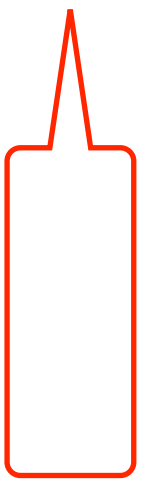
heap A



prog B

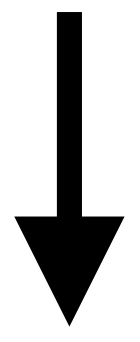

cpu
running
idle
prog B
time
prog A

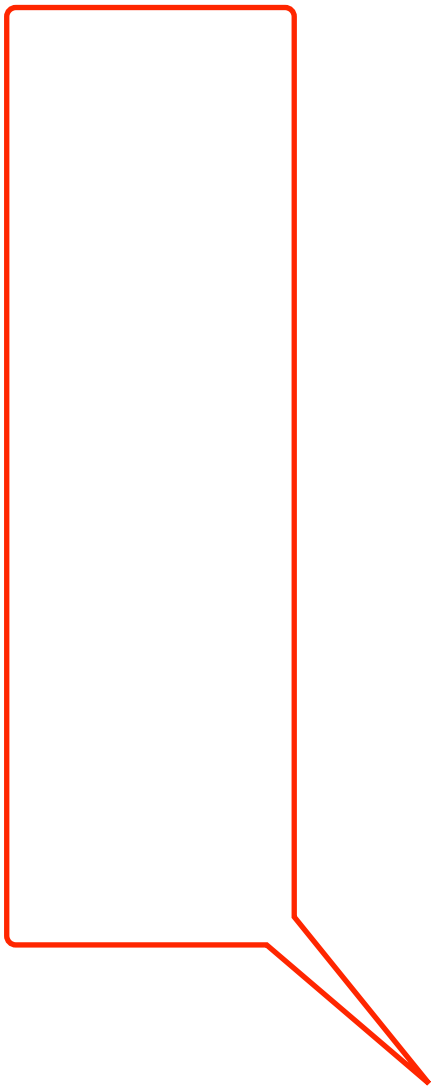
Problem: what if the program does not do any IO and use the CPU for a long time
(a.k.a starvation problem)



stack B

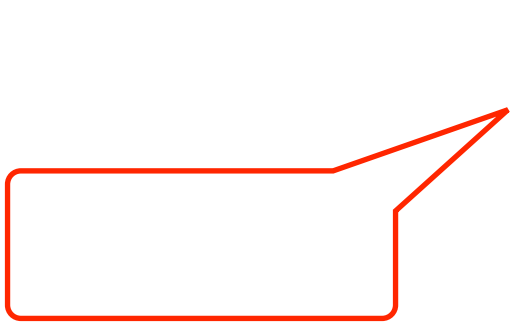
heap B





Problem: the programs and their stacks must co-exists in memory (coming next with virtual memory)

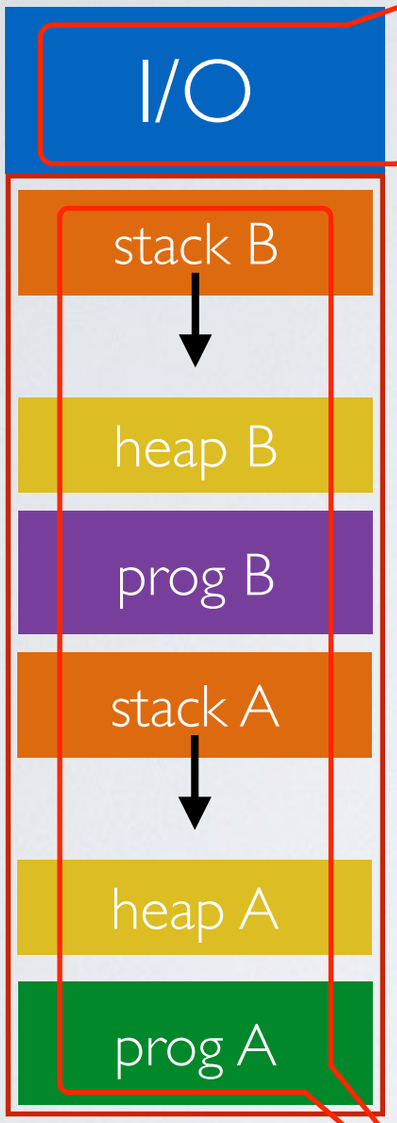
I/O



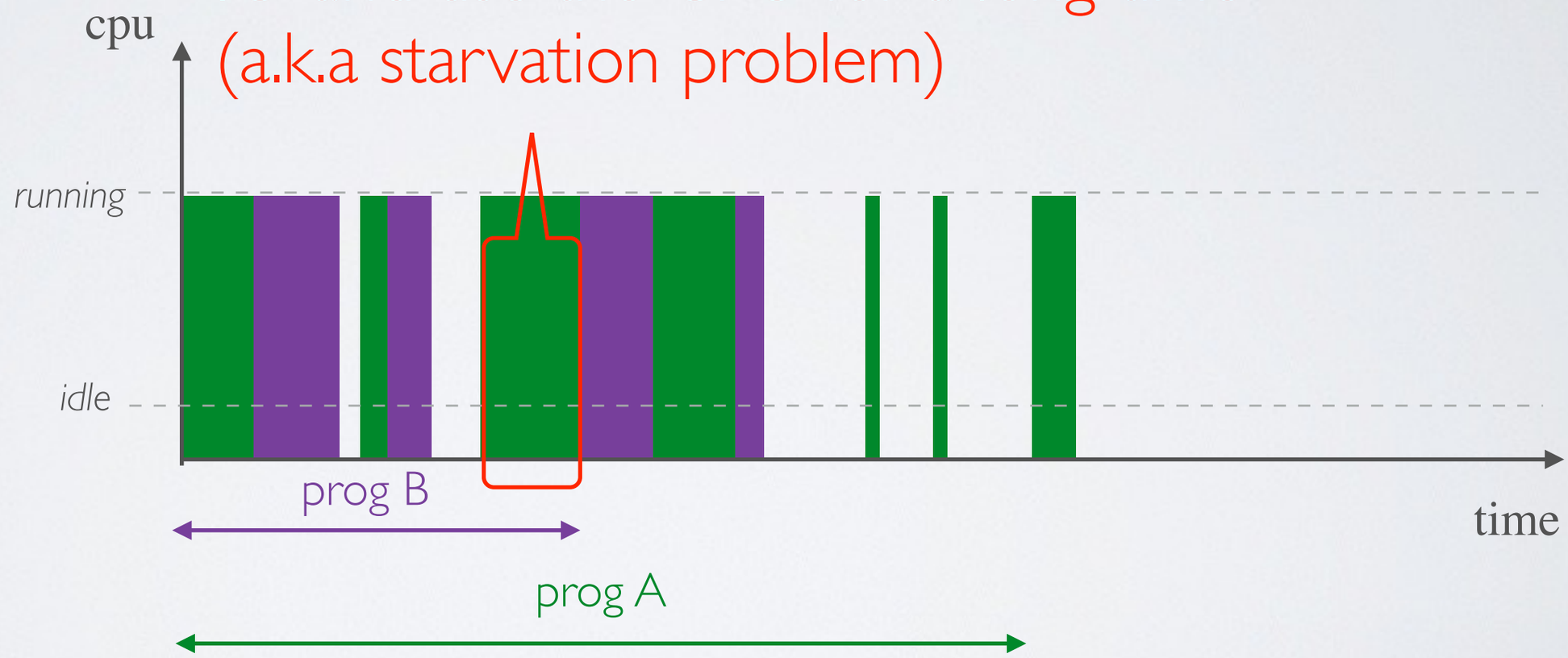
Problem: concurrent access to I/O devices must be synchronized

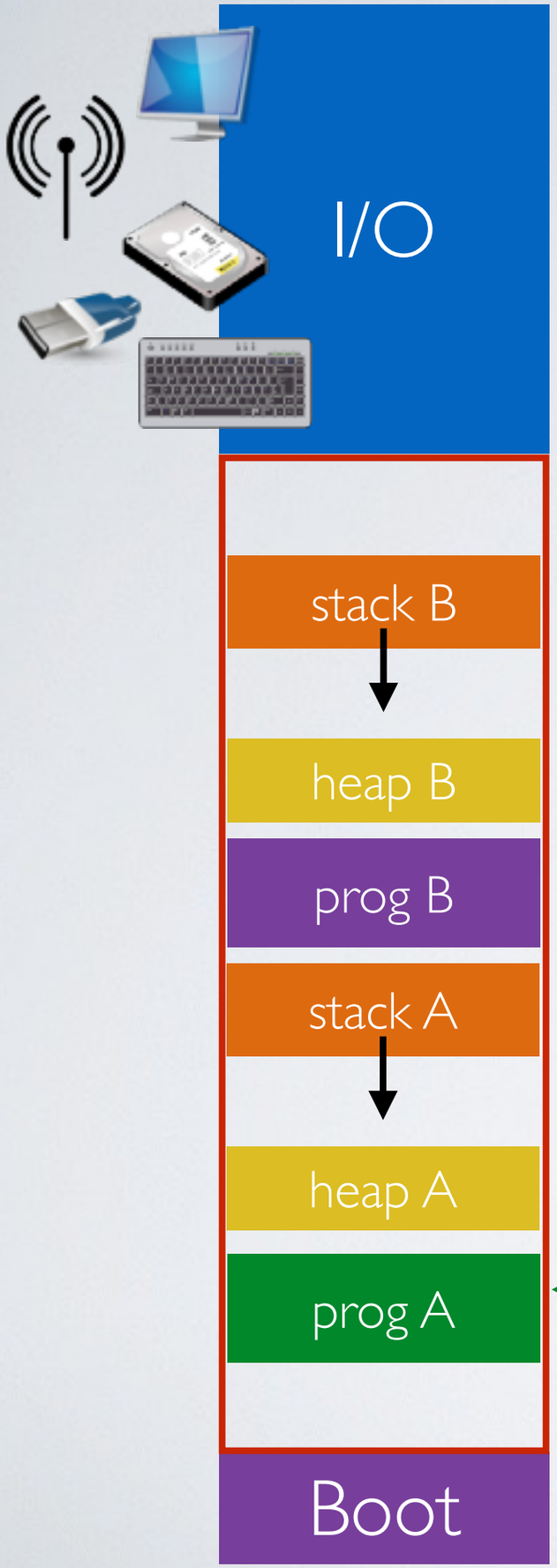
Running multiple programs concurrently

Problem: concurrent access to I/O devices must be synchronized



Problem: what if the program does not do any IO and use the CPU for a long time (a.k.a starvation problem)



Problem: the programs and their stacks must co-exists in memory (coming next with virtual memory)

Using the clock to trigger an interrupt