CIS 452 - Operating Systems Concepts
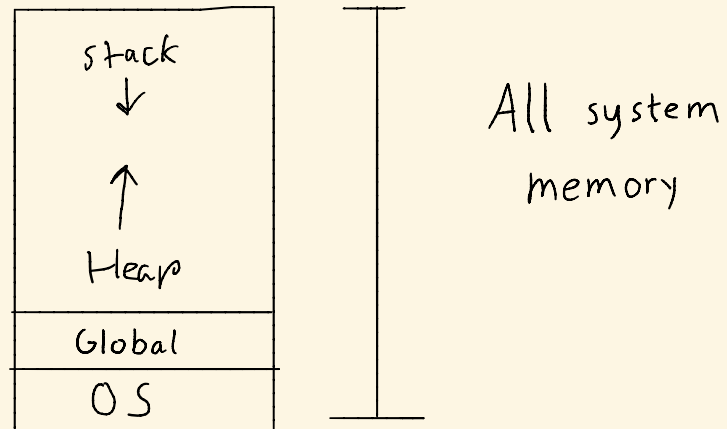
Nathan Bowman

Multiprogramming introduction
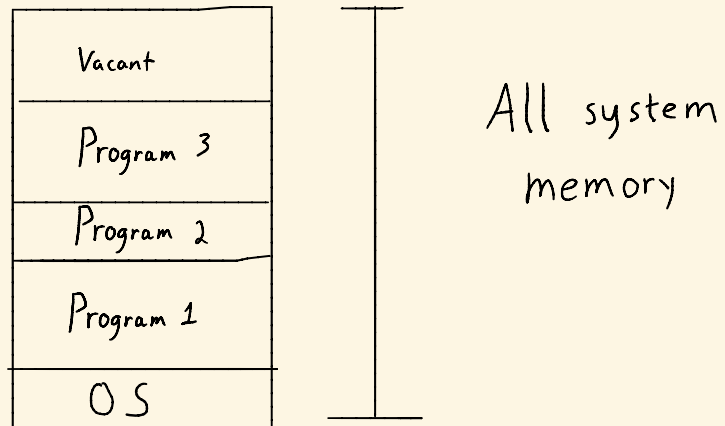
Memory map with one process

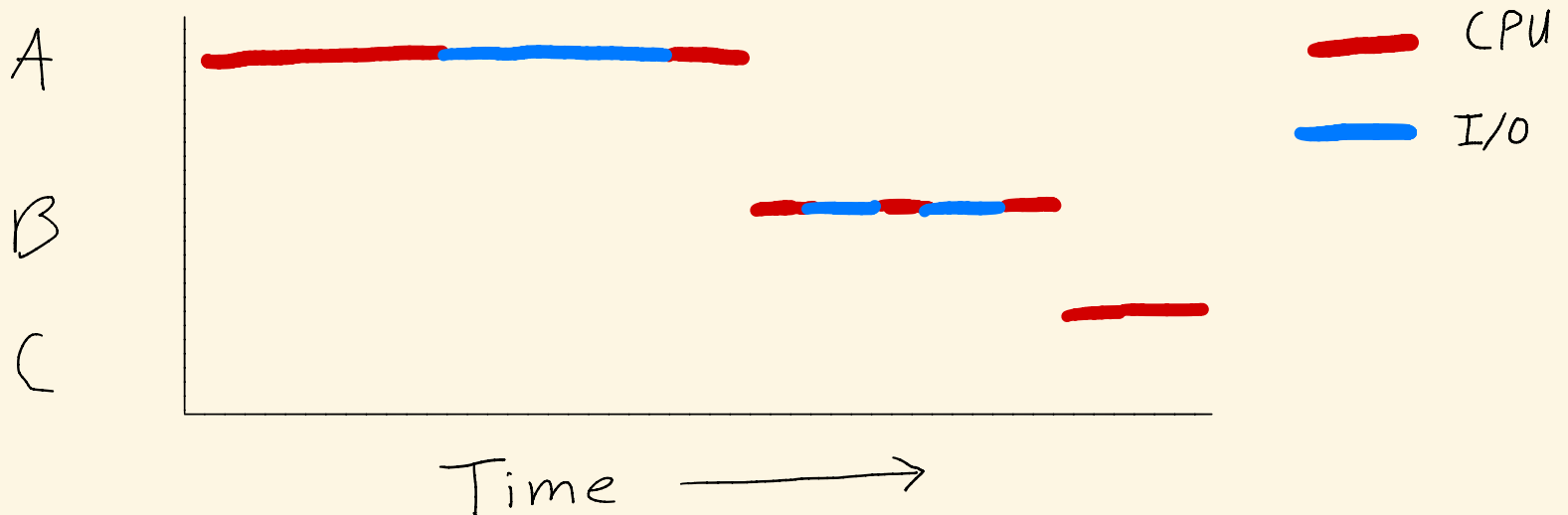
stack
↓

↑

Heap

Global

OS

All system memory

Multiprogramming

Vacant
Program 3
Program 2
Program 1
O S

All system memory

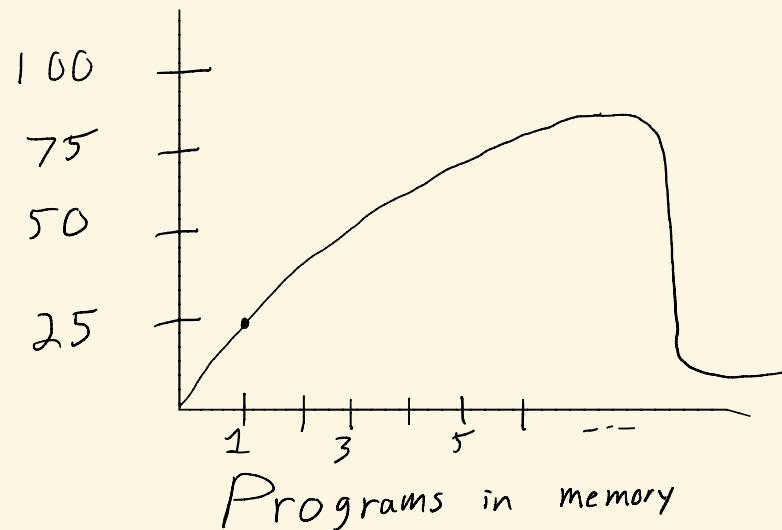# Resource utilization before...

A

B

C

Time →

CPU

I/O

...and after
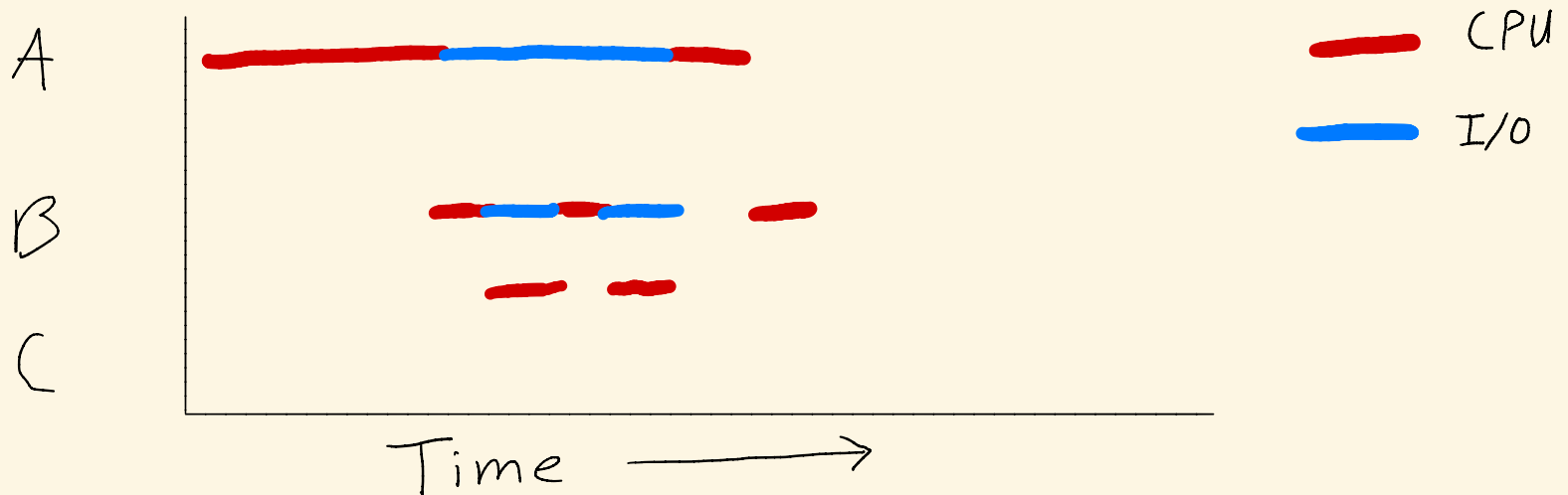
More multiprogramming is better -- to a point

Multiprogramming is key to effective resource utilization. Also allows for fast switching between processes that gives a "feel" of concurrent programs on a single processor.

We will talk in a lot more detail later about how memory is managed