

# Fixed vs. Variable Space

How to determine how much memory to give to each process?

## **Fixed space algorithms**

- Each process is given a limit of pages it can use
- When it reaches the limit, it replaces from its own pages
- ➔ Local replacement : some processes may do well while others suffer

## **Variable space algorithms**

- Process' set of pages grows and shrinks dynamically
- ➔ Global replacement : one process can ruin it for the rest

# Working Set Model

A working set of a process is used to model the dynamic locality of its memory usage

$WS(t,w) = \{\text{pages } P \mid P \text{ was referenced in the time interval } (t, t-w)\}$   
 $t$  – time,  $w$  – working set window (measured in page refs)

➡ A page is in the working set (WS) only if it was referenced in the last  $w$  references