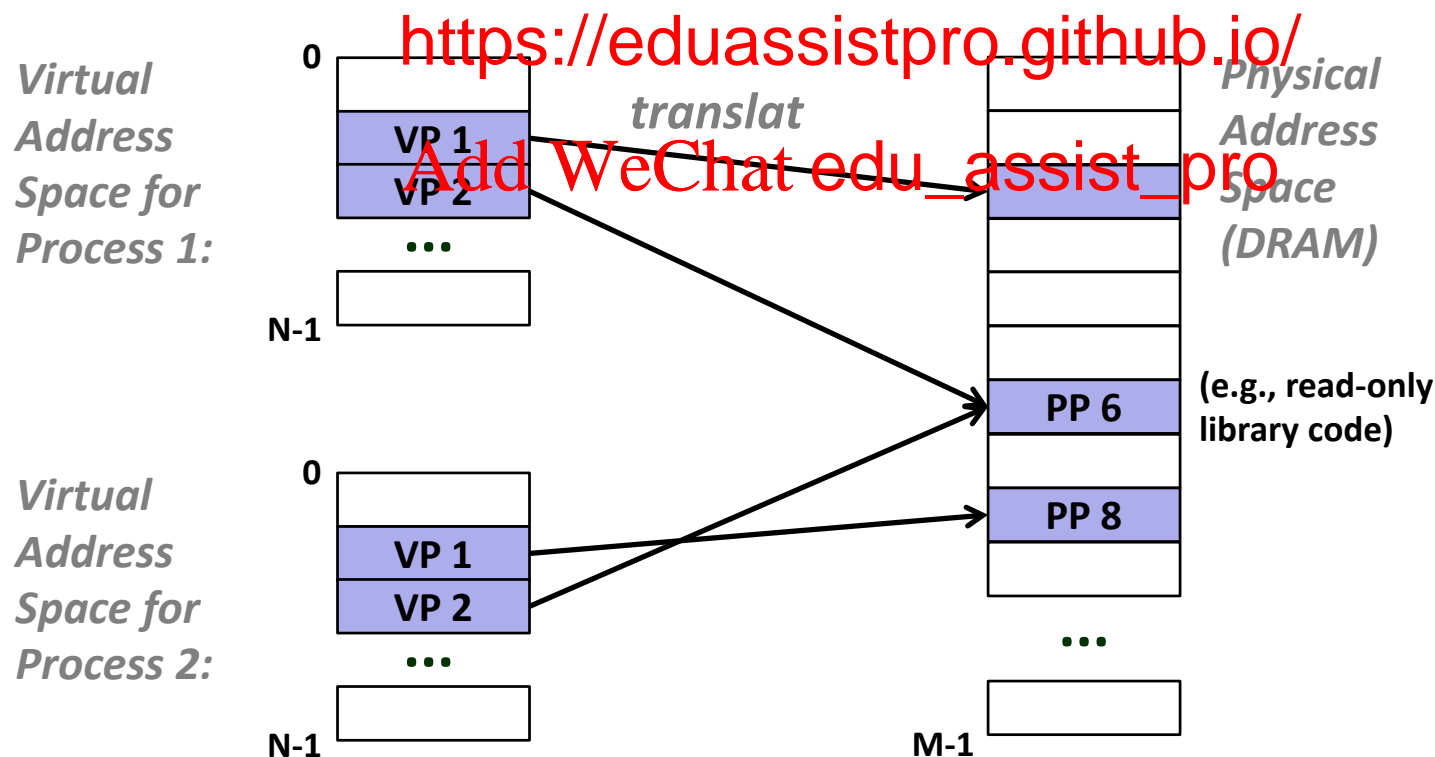


VM as a Tool for Memory Management

- **Key idea: each process has its own virtual address space**
 - It can view memory as a simple linear array
 - Mapping function scatters addresses through physical memory
 - Well chosen mappings simplify memory allocation and management



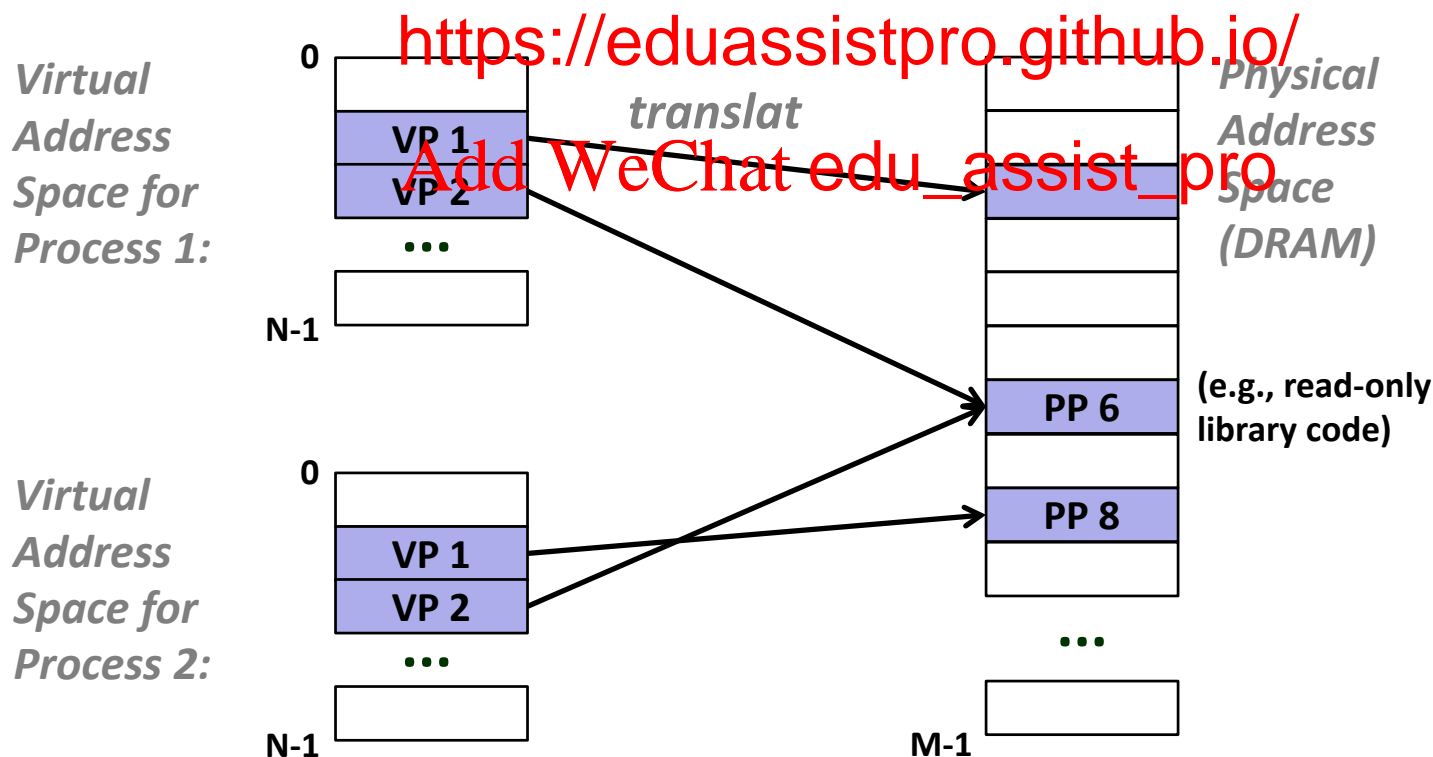
VM as a Tool for Memory Management

■ Memory allocation

- Each virtual page can be mapped to any physical page
- A virtual page can be stored in different physical pages at different times

■ Sharing code and data among processes

- Map virtual pages to the same physical page (here: PP 6)

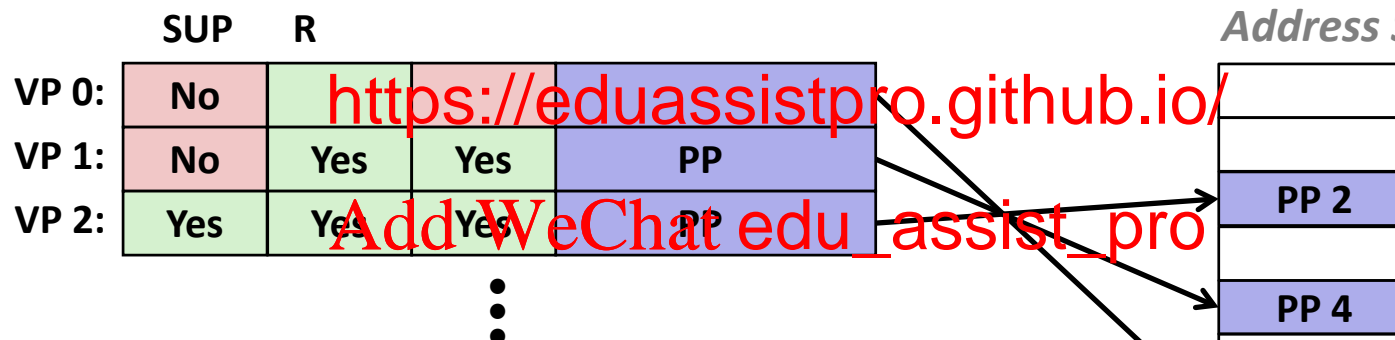


VM as a Tool for Memory Protection

- Extend PTEs with permission bits
- Page fault handler checks these before remapping
 - If violated, send process SIGSEGV (segmentation fault)

Assignment Project Exam Help

Process i:



Process j:

