

Paging Advantages

- ✓ Easy to allocate memory
 - Memory comes from a free list of fixed size chunks
 - Allocating a page is just removing it from the list
 - External fragmentation not a problem
- ✓ Easy to swap out chunks of a program
 - All chunks are the same size
 - Use valid bit to detect references to swapped pages
 - Pages are a convenient multiple of the disk block size

Paging Limitations

- Can still have internal fragmentation
- Requires 2 or more references, which could limit performance

➔ **Solution:** use a hardware cache of lookups (coming next)

- The amount of memory to store the page table is significant

- Need one PTE per page, with 32 bit address space w/ 4KB pages = 220 PTEs
- 4 bytes/PTE = 4MB/page table
- 25 processes = 100MB just for page tables!

➔ **Solution** : page the page tables (coming next)