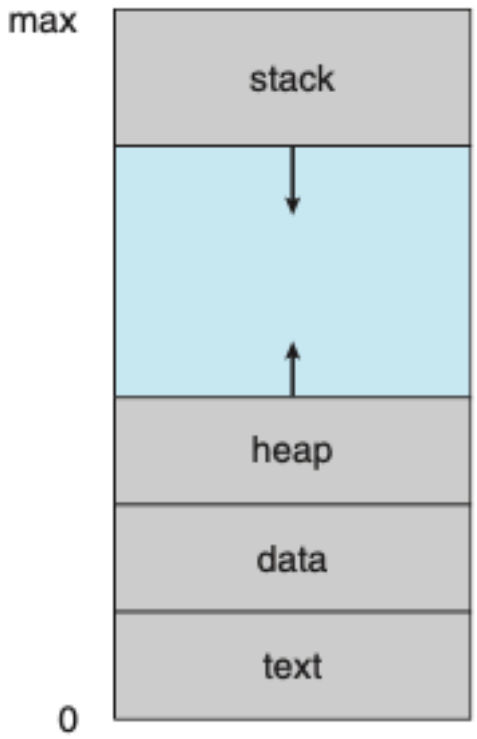
بسم الله الرحمن الرحیم

۱۷۲

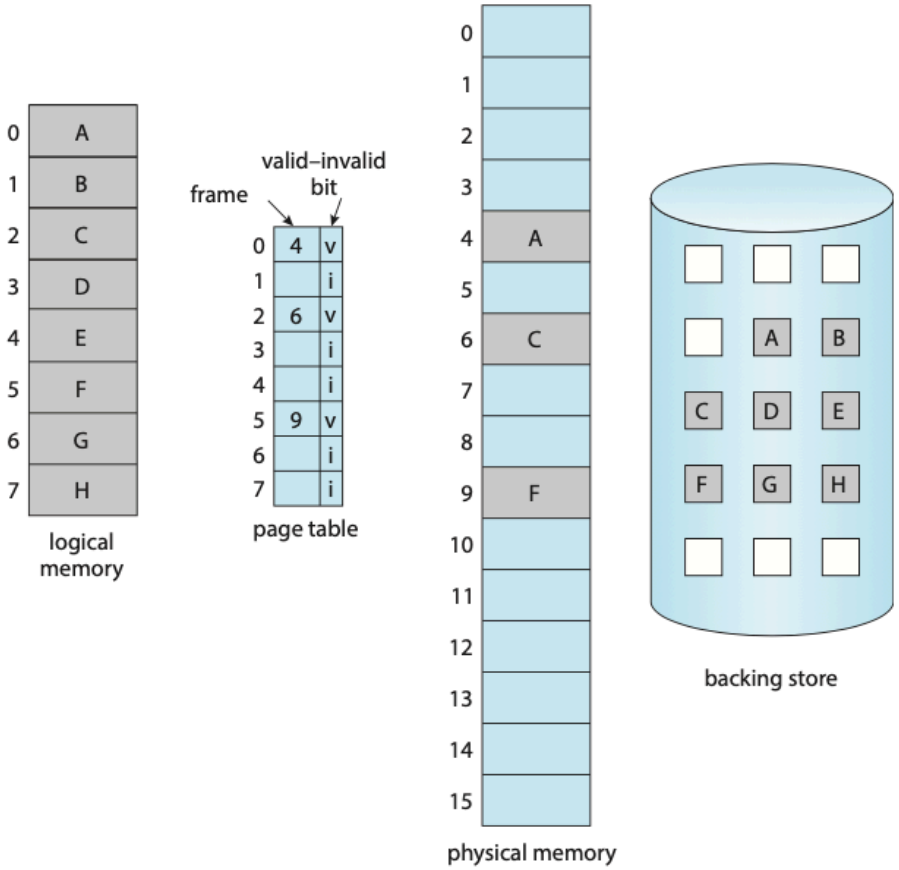
«سیستم عامل»

جلسه ۱۸: مدیریت حافظه (۶)

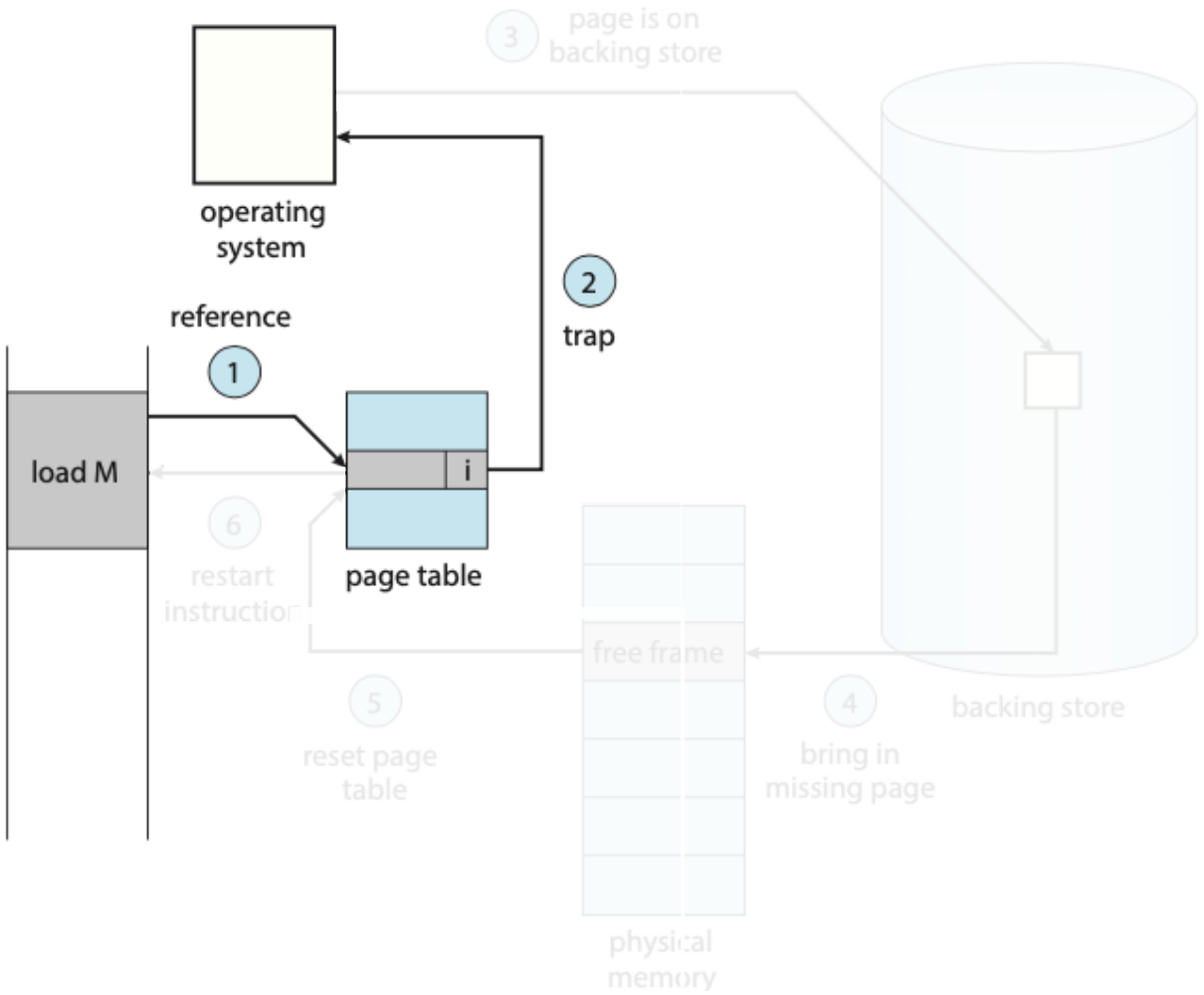
ایجاد پردازه



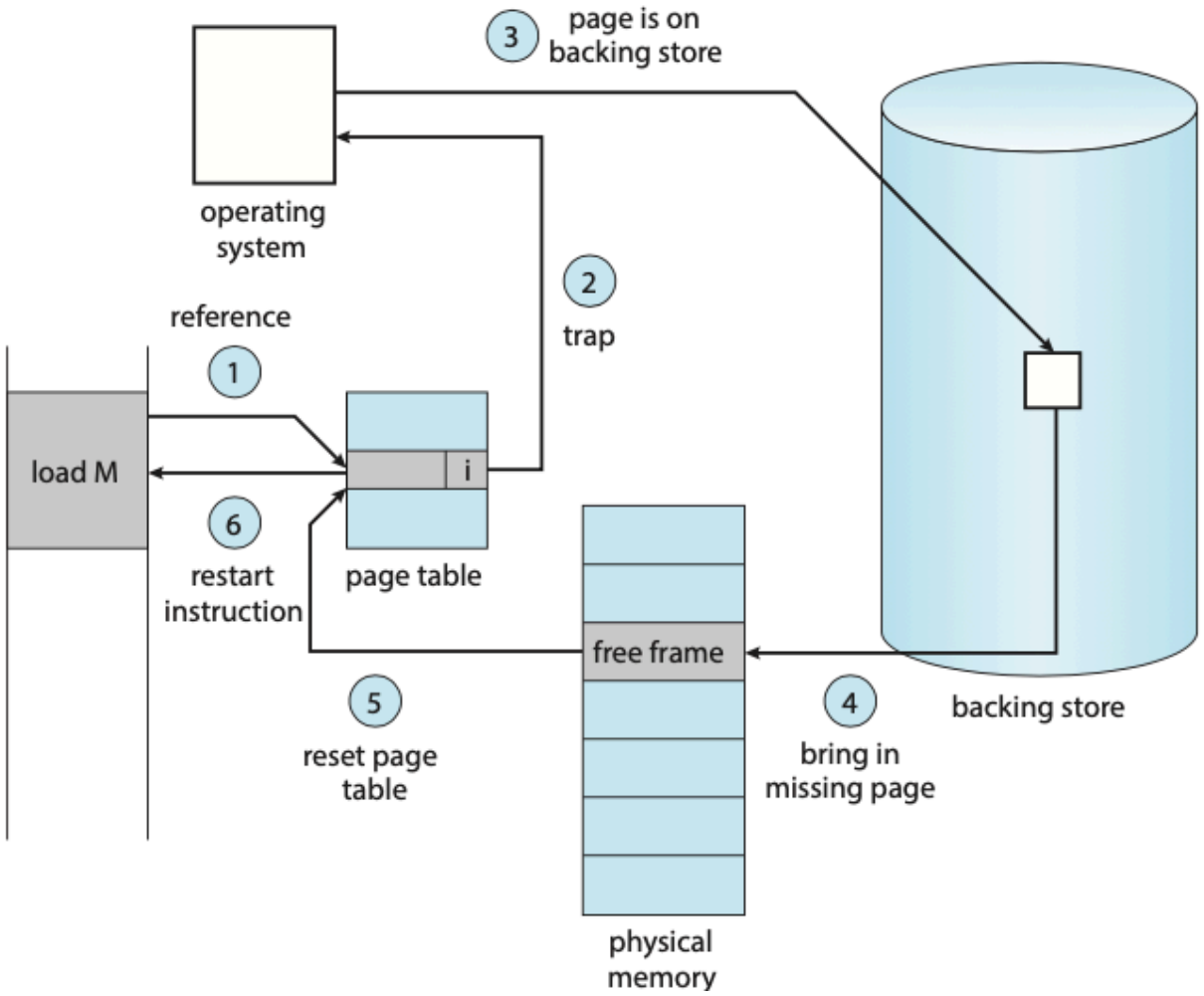
ایجاد پردازه / تعمیم



صفحه‌هایی که در حافظه نیستند!



صفحه‌هایی که در حافظه نیستند!



Handling a page fault

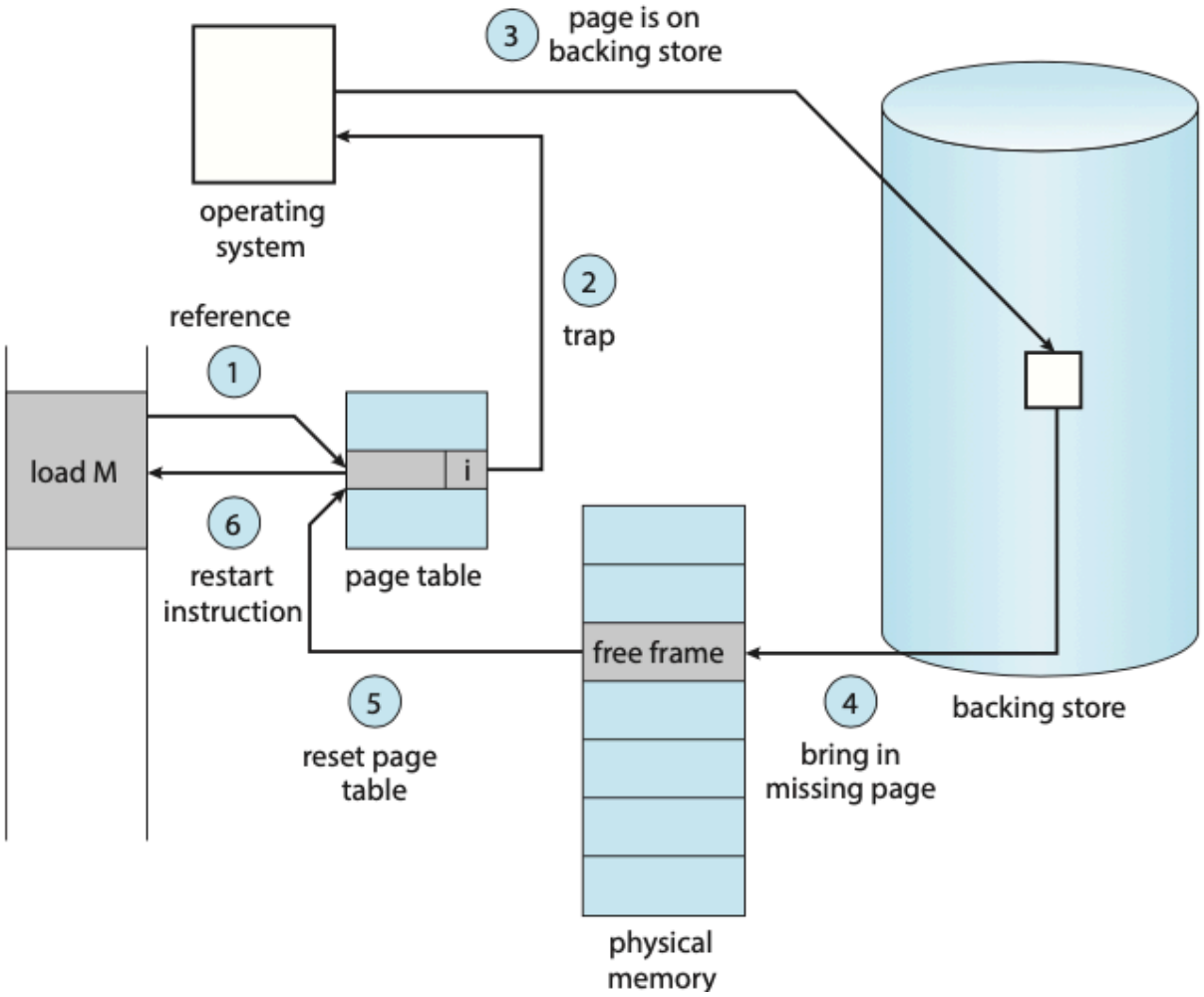
- **Hardware traps to kernel**
  - PC and SR are saved on stack
- **Save the other registers**
- **Determine the virtual address causing the problem**
- **Check validity of the address**
  - determine which page is needed
  - may need to kill the process if address is invalid
- **Find the frame to use (page replacement algorithm)**
- **Is the page in the target frame dirty?**
  - If so, write it out (& schedule other processes)
- **Read in the desired frame from swapping file**
- **Update the page tables**
- **(continued)**

Handling a page fault

- **Back up the current instruction**
  - The "faulting instruction"
- **Schedule the faulting process to run again**
- **Return to scheduler**
- **...**
- **Reload registers**
- **Resume execution**

نیاز سخت‌افزاری

- برگشت به عقب



Minor page faults?

- **when the code (or data) needed is actually already in memory, but it isn't allocated to that process**