

<http://public.gettysburg.edu/~cpresser/cs324>

Dear Colleagues:

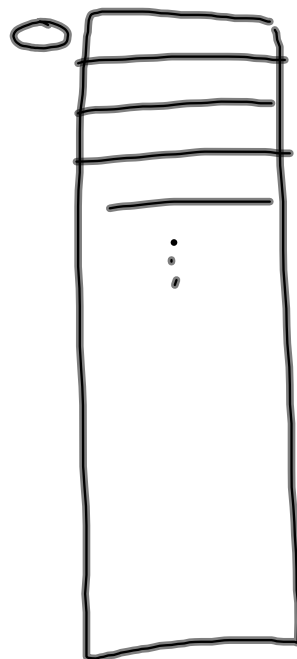
Please disseminate the following information to Computer Science majors and encourage them to attend:

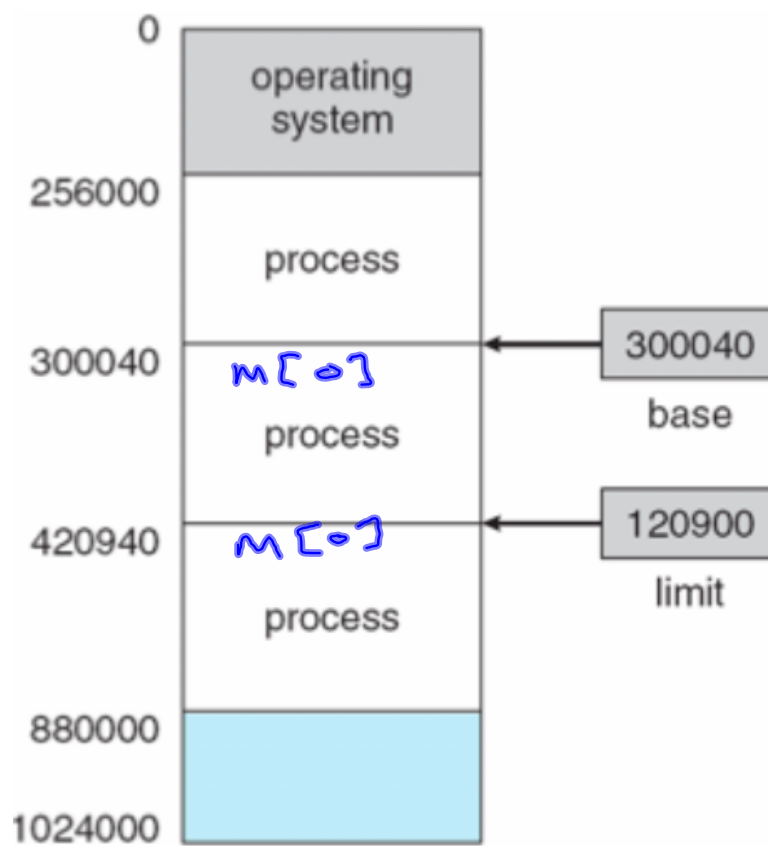
Naval Supply Systems Internship Information Session, Wednesday, October 26th (Noon to 1pm) in Science Center 200. Free Pizza and Soda provided! Register via GettysburgWorks (events and workshops tab)!

NAVSUP BSC, one of the largest employers in Central Pennsylvania, is an award winning provider of information technology products and services to the U.S. Navy, Department of Defense, and other federal organizations. We develop and maintain business systems used by a world-wide customer base. Our work force of over 500 employees is a multi-talented, customer focused team employing the latest in information technology to solve business challenges. We are seeking 2nd or 3rd year college students pursuing a degree in the areas of Computer Science, Information Systems, Business Information Systems, or other Information Technology majors for our internship program.

Best,
Manny Ruiz, MA
Assistant Director, Employer Relations and Internships
Center for Career Development
Gettysburg College
(717) 337-6616

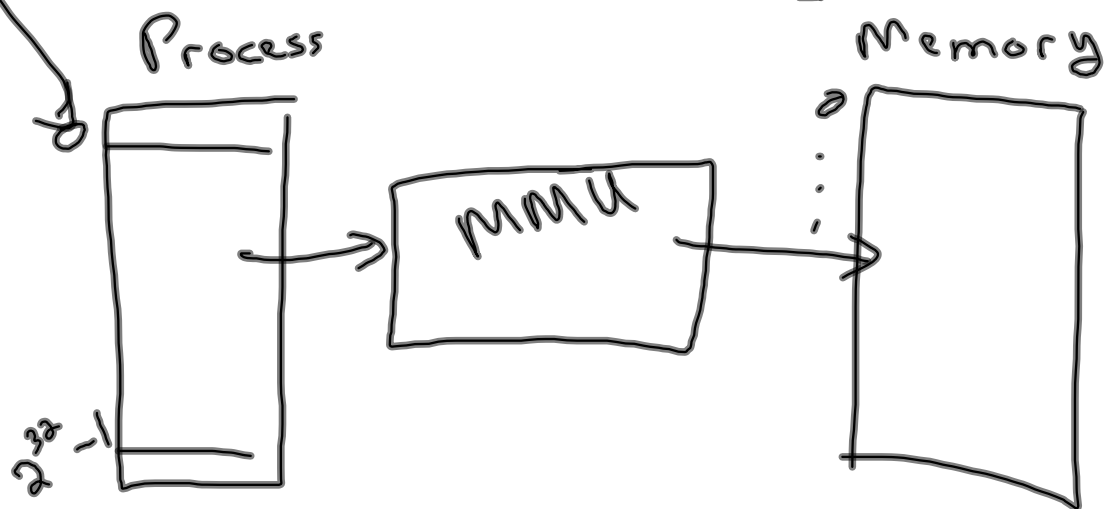
Main Memory

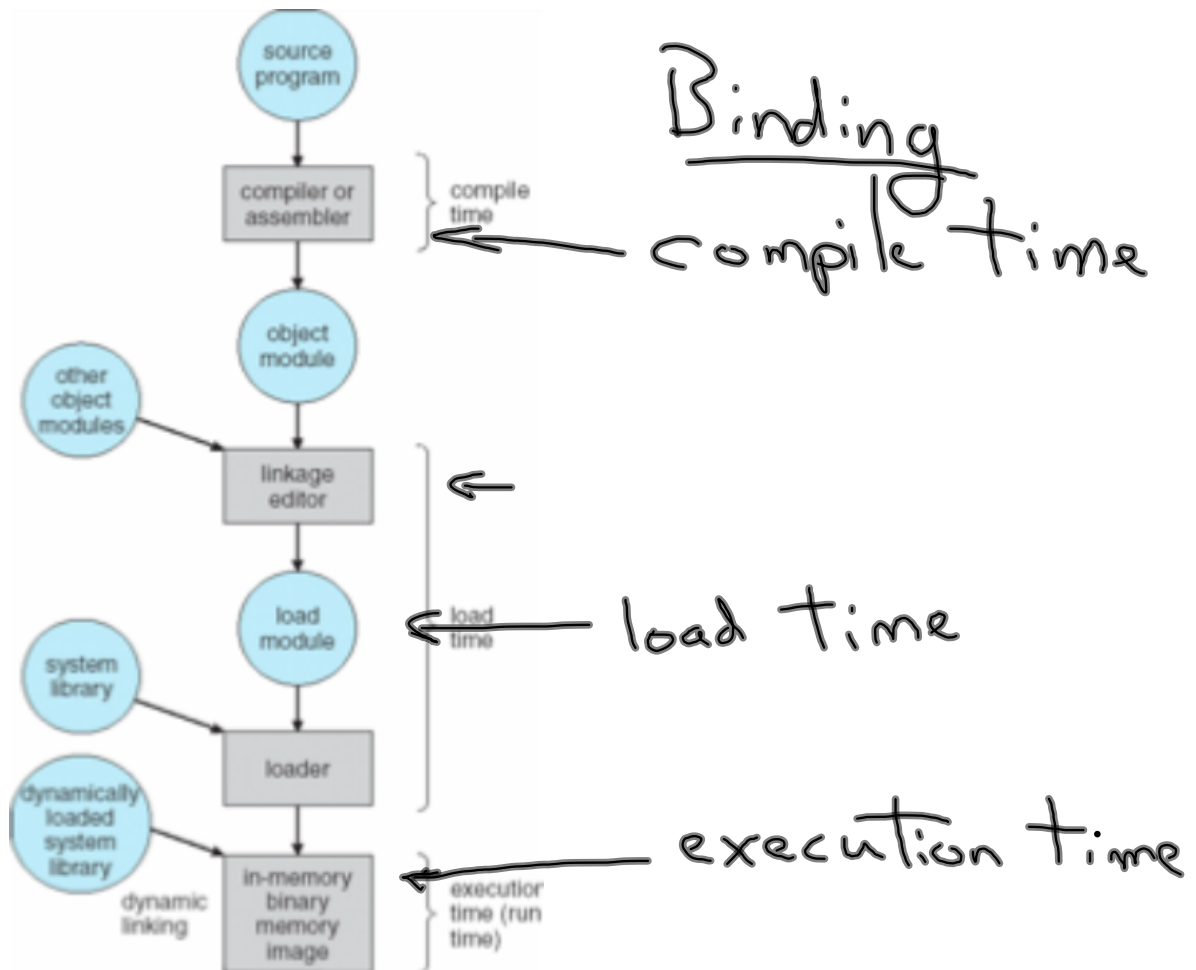


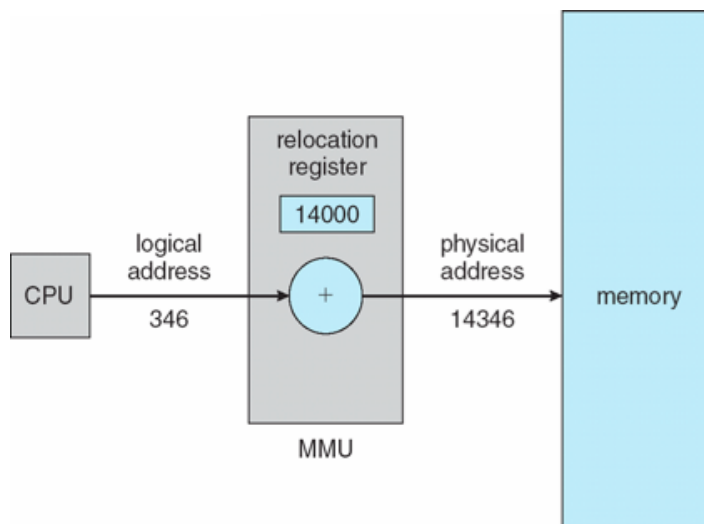


Logical addr. space
(virtual)

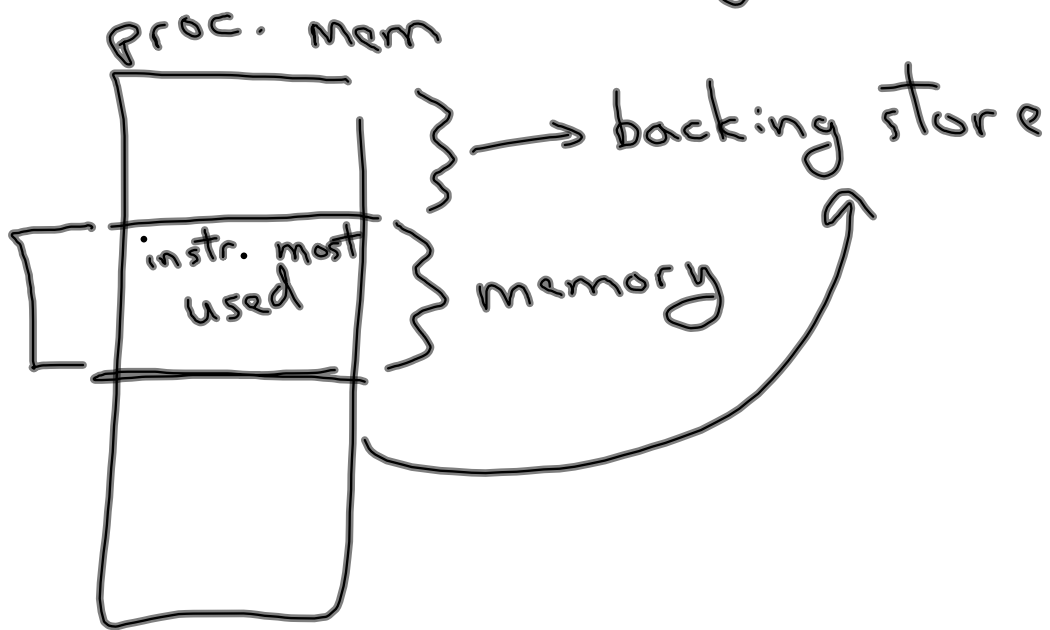
Physical address space



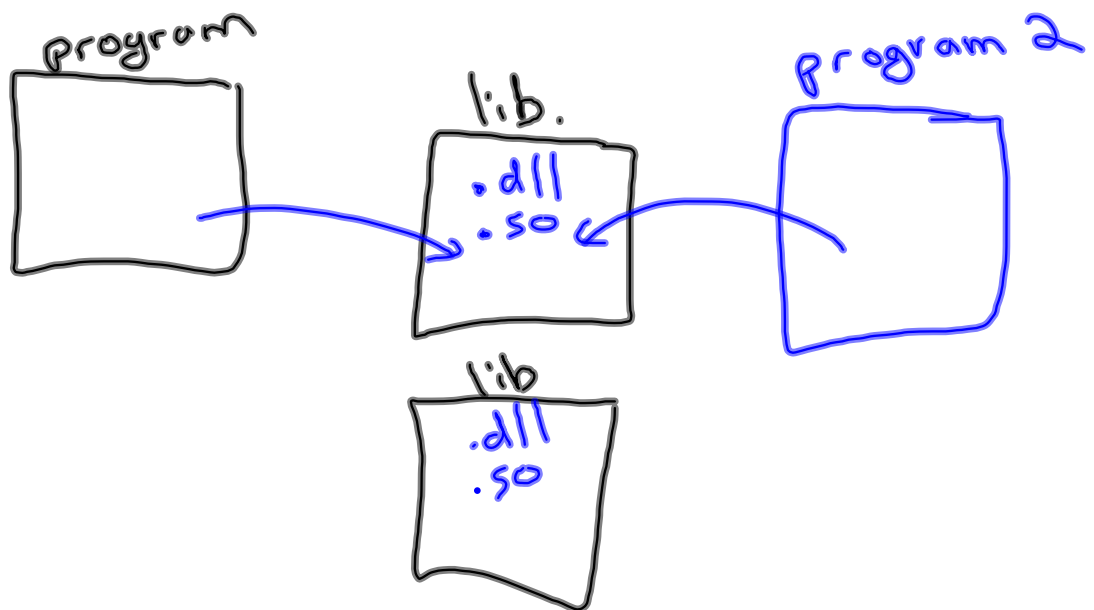


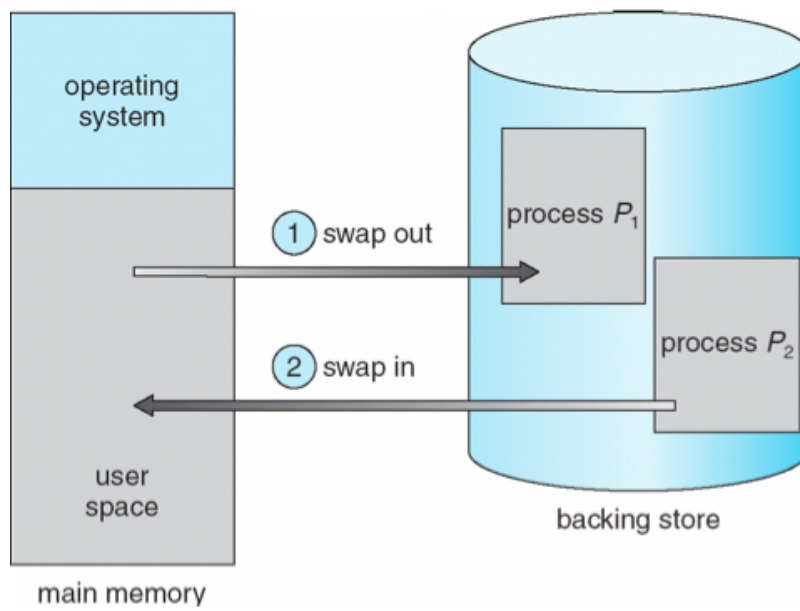


Dynamic Loading



Dynamic Linking

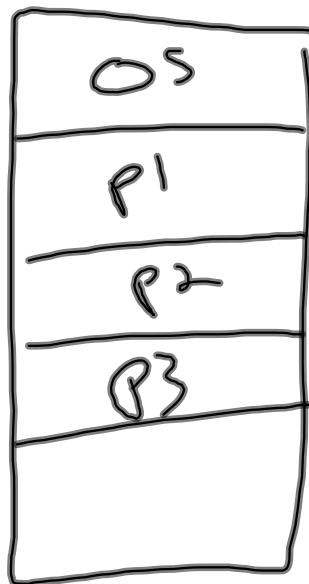


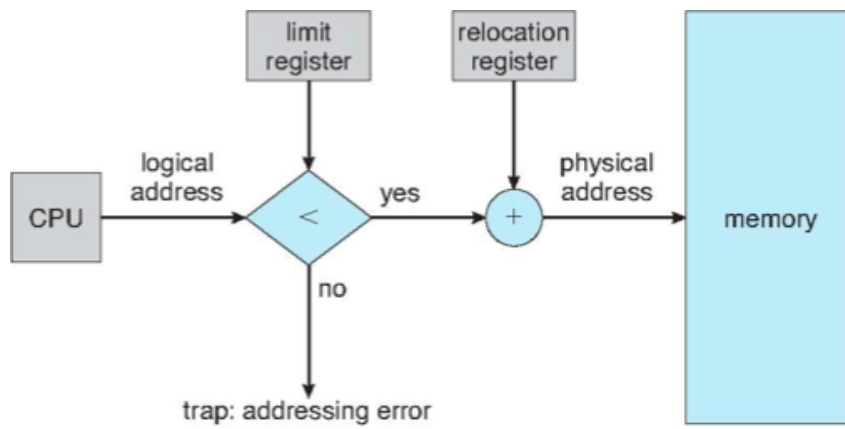


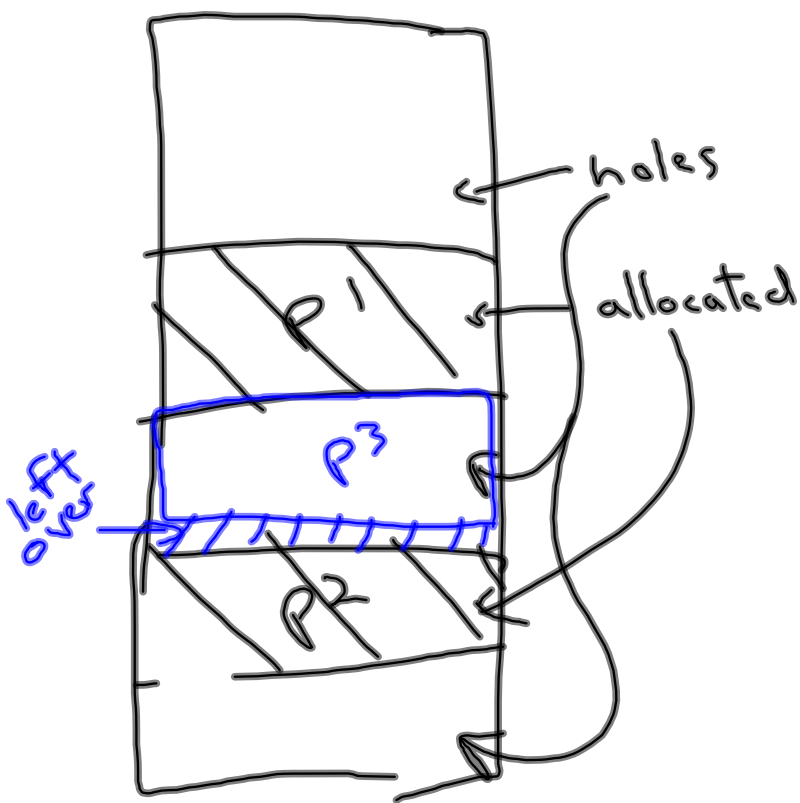
Memory Allocation

- create process
- process request memory

Every proc. has contiguous addr. space.







first fit

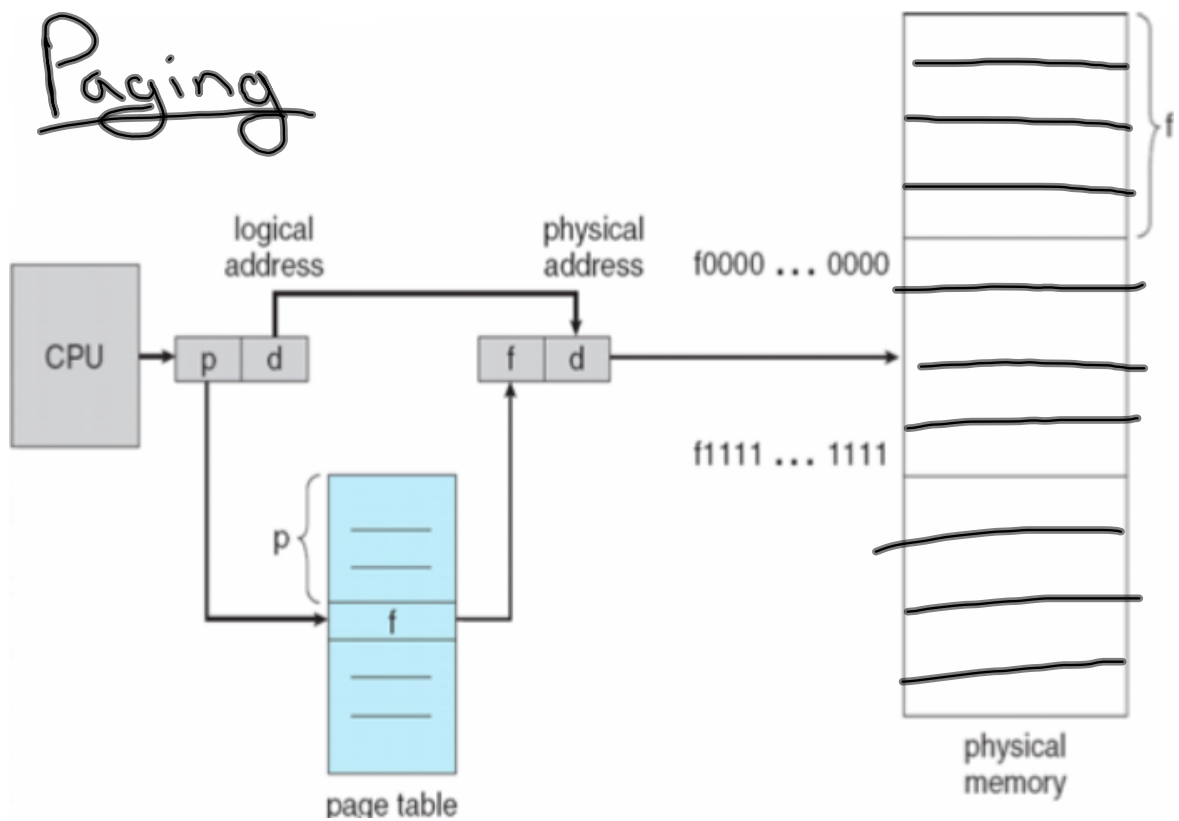
Best fit

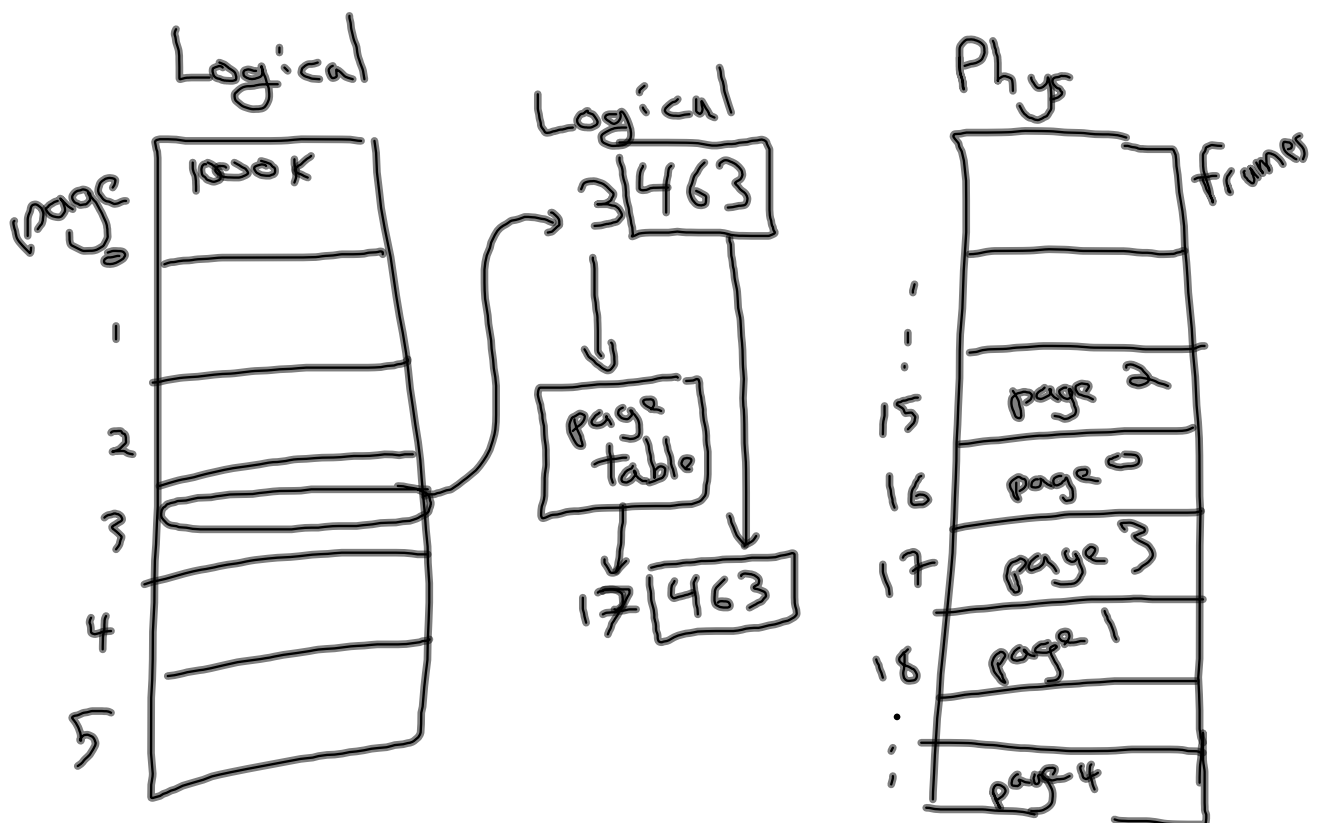
Worst fit

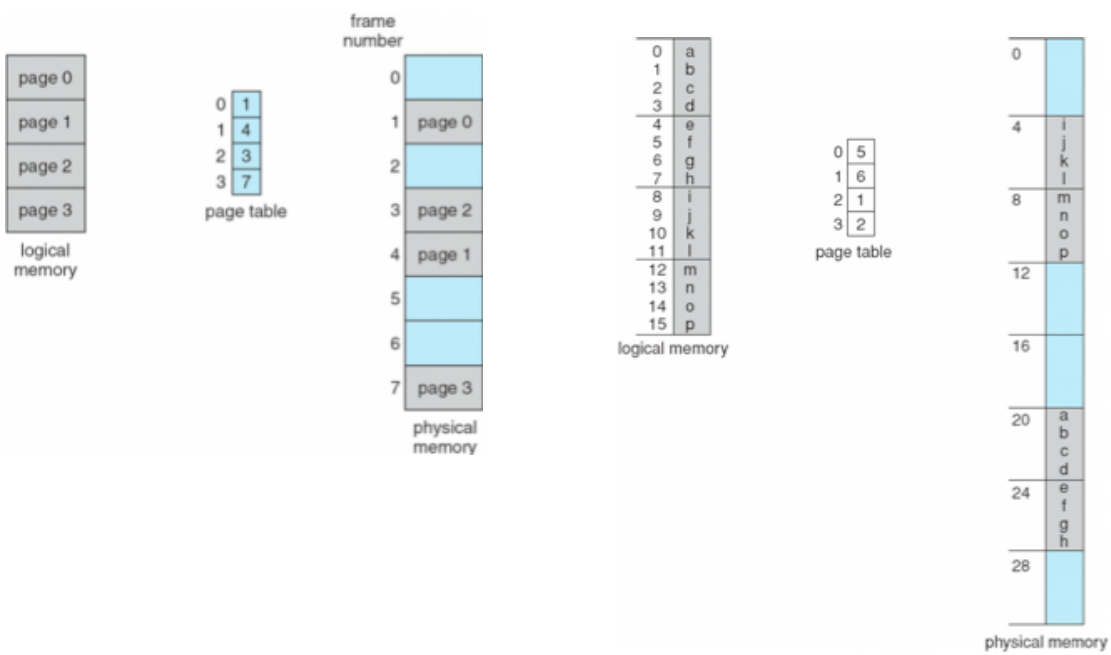
Fragmentation

- external
- internal

Paging





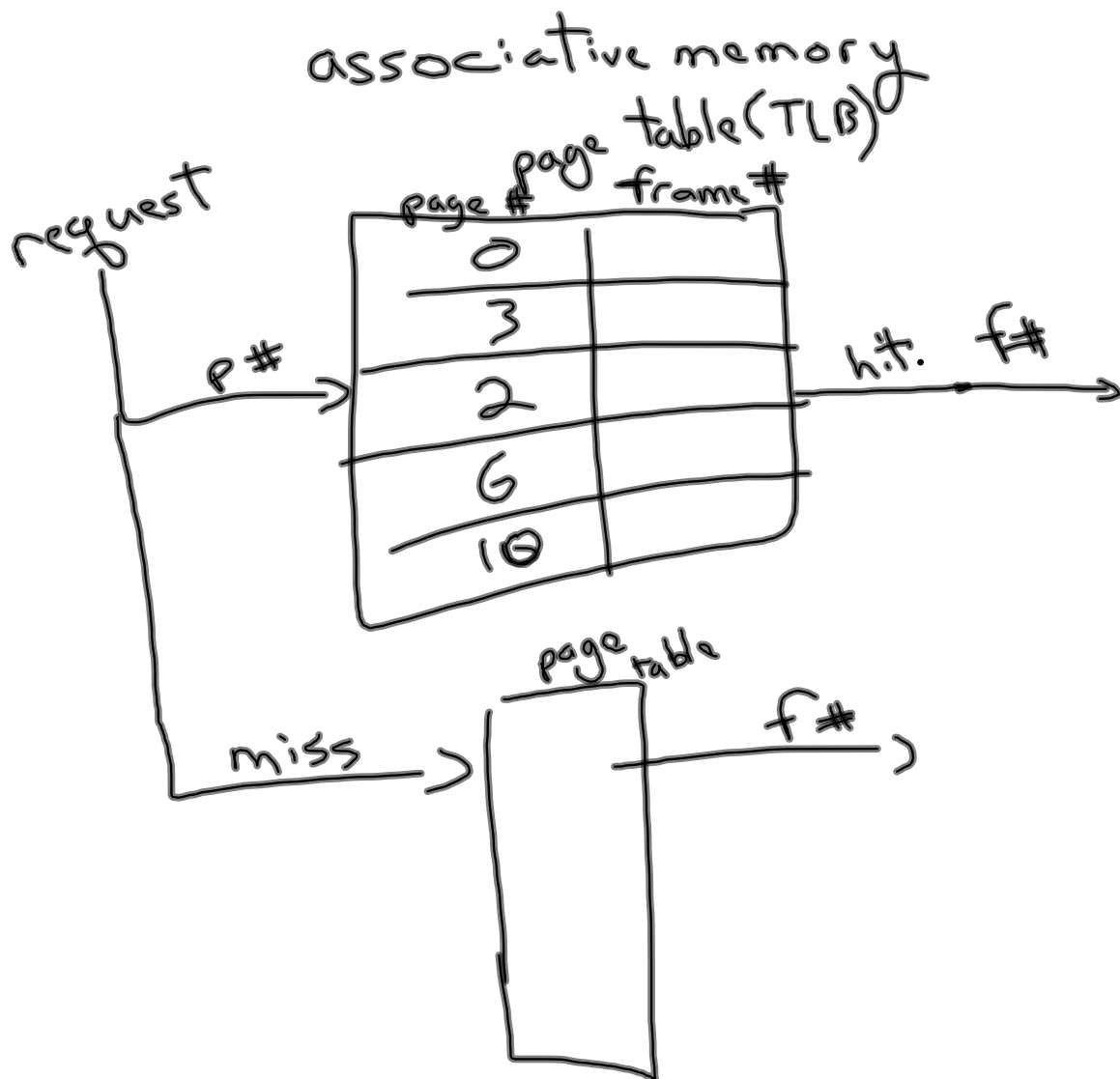


Page Table

Index (page #)	frame #	valid?
0	5	✓
1	7	✓
2	3	✓
3		X
.		
.		

Hardware

TLB - translation
look-aside
buffer



Shared pages

proc. 1

0	prg 1
1	prg 2
2	prg 3
3	data 1

0	3
1	5
2	4
3	7

proc 2

prg 1
prg 2
prg 3
data 2

2
6
4
2

phys	
0	
1	
2	prg 1
3	data 2
4	prg 3
5	prg 2
6	
7	data 1
8	
⋮	

32 bit addr. space

page size 4KB $2^{12}B$

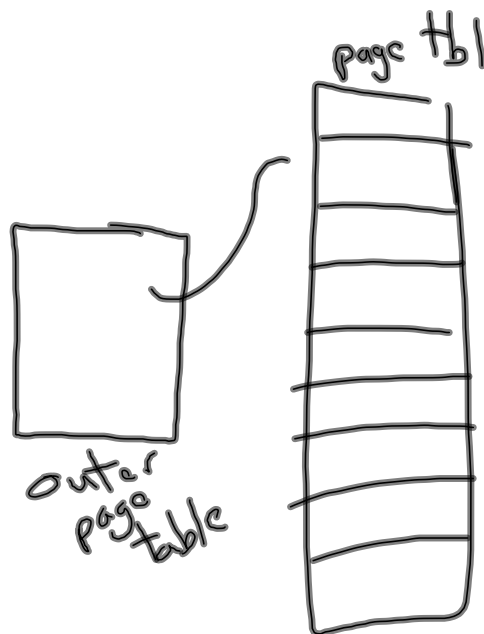
page table

↳ entry 4B

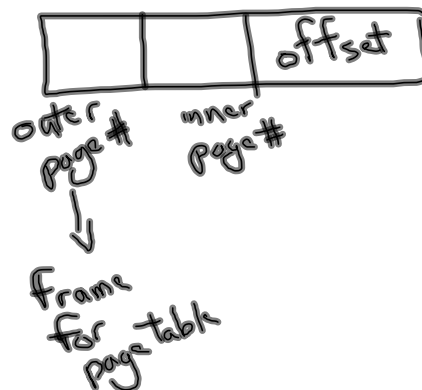
↳ # of entries - 2^{20}

↳ size: 4MB

$$\frac{2^{32}}{2^{12}} = 2^{20}$$

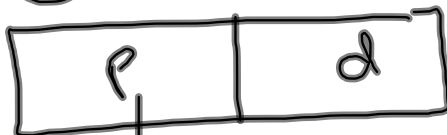


Logical addr



Hashed Page Table

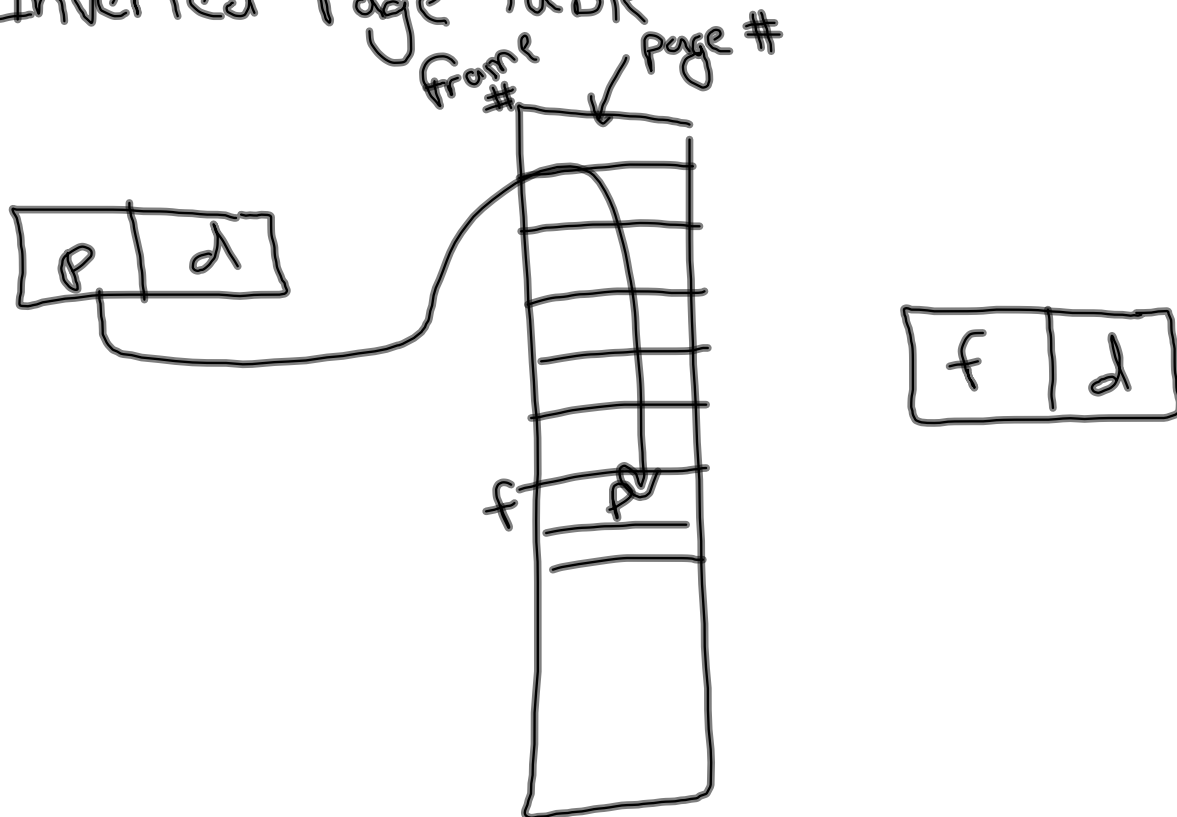
logical addr



phys
addr.

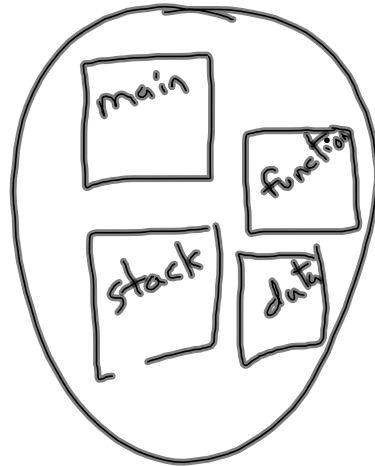


Inverted Page Table



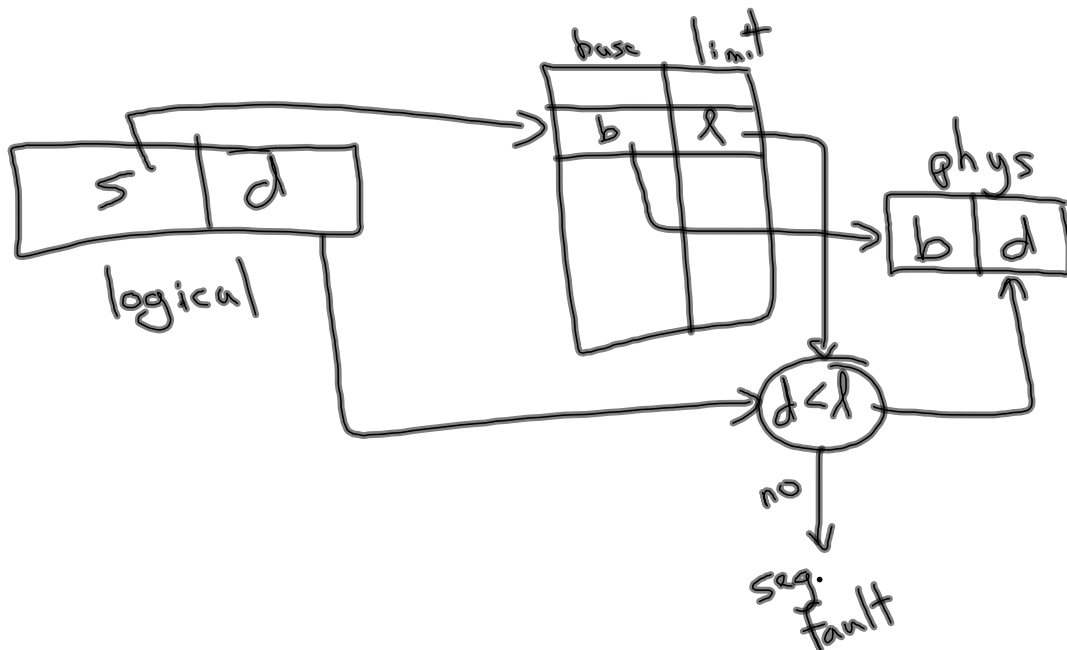
Segmentation

process

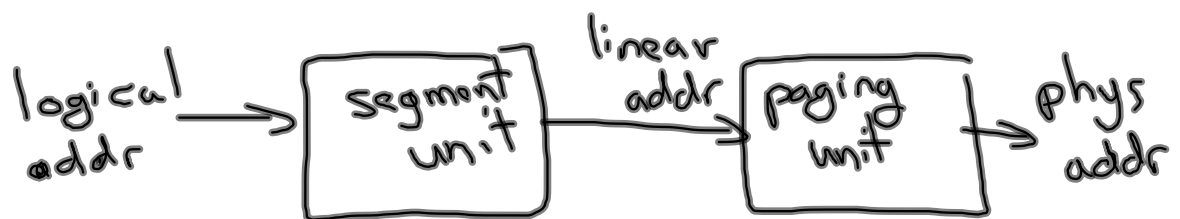


Segment table

- base - where in phys mem
- limit - how big?



Intel Pentium



Linux

