

15-213

“The course that gives CMU its Zip!”

Machine-Level Programming III: Procedures Sept. 15, 2006

IA32

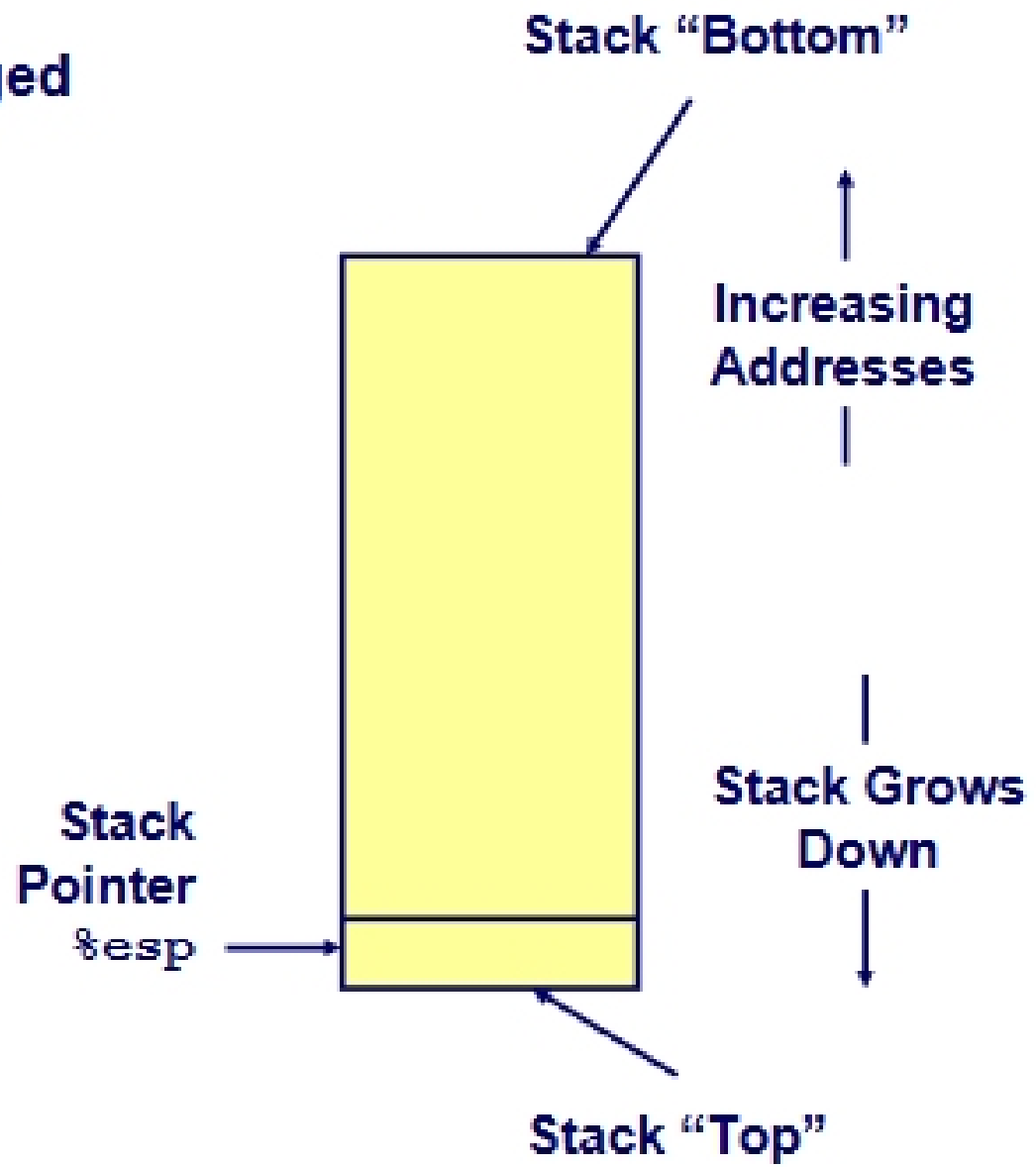
- stack discipline
- Register saving conventions
- Creating pointers to local variables

x86-64

- Argument passing in registers
- Minimizing stack usage
- Using stack pointer as only reference

IA32 Stack

- Region of memory managed with stack discipline
- Grows toward lower addresses
- Register `%esp` indicates lowest stack address
 - address of top element



IA32 Stack Pushing

Pushing

- `pushl Src`
- Fetch operand at `Src`
- Decrement `%esp` by 4
- Write operand at address given by `%esp`

