CS 208
Mon., T Oct 2023
Architecture of x86-64

Memory

 Registers

64 bits

rax
rbx
:

instruction pointer

rip
eflags
Instructions act on registers.

```
movl %rax, %rbx
```

Copies contents of `rax` to `rbx`.

```
addl %rax, %rbx
```

`rbx = rax + rbx`
8086 8-bit registers

a
b
c
d
...
later 64 bits

rax

22

α-high

α-low

register
AT&T vs. Intel notation

movl %rax, %rbx

Source → dest

movl rbx, rax

dest → src
absolute value

edi \[ -5 \] (param)

eax \[ +5 \] (return value)

test %edi, %edi

result = %edi AND %edi

jz .L3

if the sign bit of is 1, jump to L3