Princeton University
COS 217: Introduction to Programming Systems
x86-64 Architecture

Memory Chip

CPU Chip

Control Unit

Arithmetic Logic Unit (ALU)

Registers

rax

rbx

rcx

rdx

rsi

rdi

rbp

rsp

r8

r9

r10

r11

r12

r13

r14

r15

eflags

rip

...

0000000000000000

TEXT

RODATA

DATA

BSS

HEAP

The
Program
Break →

argc

argv

...

argv array

env var array

...

argv strings

env var strings

STACK

FFFFFFFFFFFFFFFF