

CS 631-02 RISC-V Functions

Lab 03

array indexing

$$x = \underbrace{a[i]}_{\text{addr}}$$

$$\text{addr} = \text{base} + (i \times \text{sizeof(int)}) \\ a + (i \times 4)$$

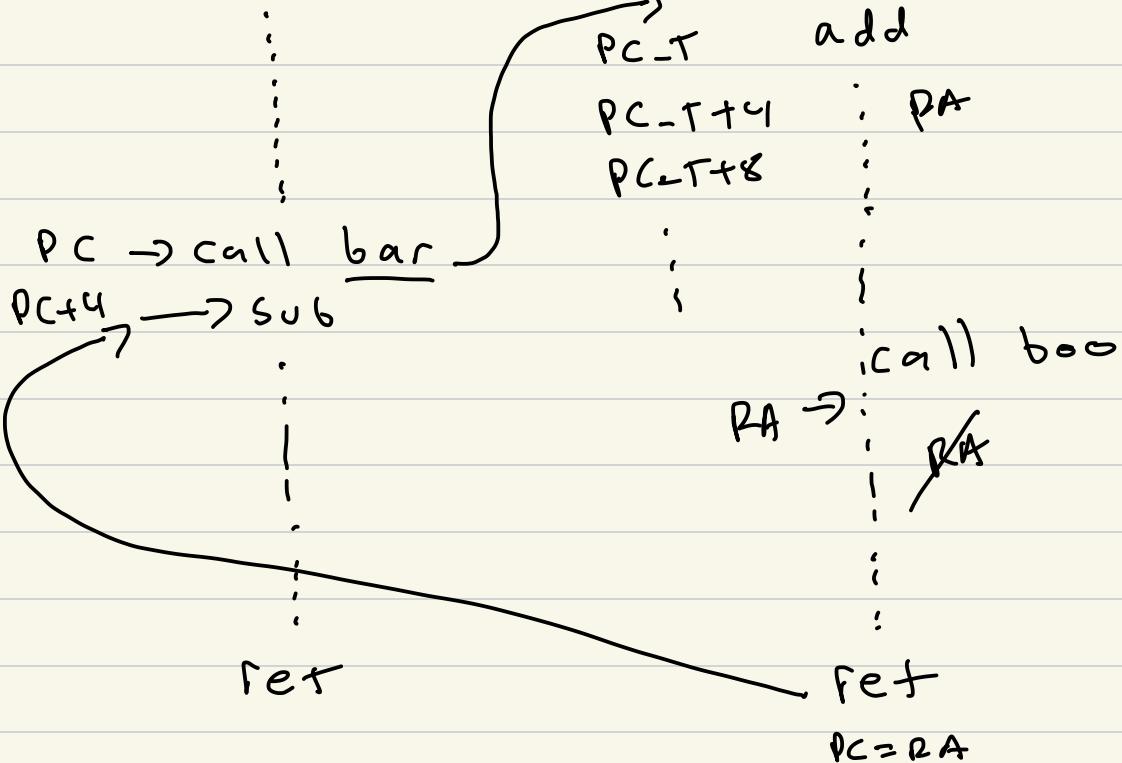
slli t2, t0, 2 # to << 2

functions

caller

callee

foo:



PC program counter

RA return address

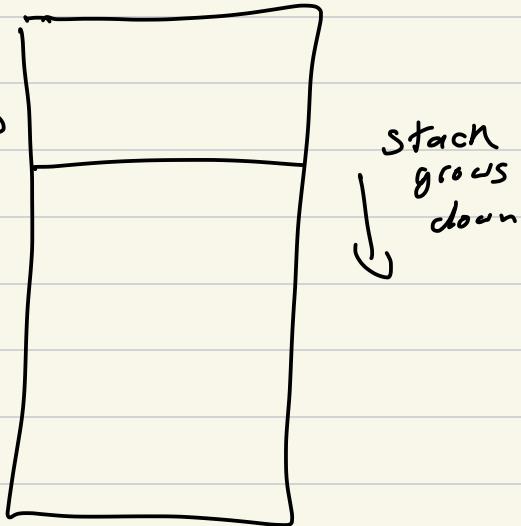
call (jal) RA = PC + 4 , PC = target addr
ret (jalr) PC = RA
jalr to ra

The Stack

SP →

For functions

preserving FCSI



Caller

saved

regs

Callee

saved

regs

a regs

b regs

ra reg

s regs

sp

`addi $p, $p, -16`

$SP \rightarrow$

`sd ra, ($p)`

$SP - 16 \rightarrow$

unused

ra

