

CS315-02 Lab Functions

RISC-V Calling Conventions

- ① Allocate stack space $\text{addi } sp, sp, -x$
 x must be a multiple of 16
- ② Save ra on stack if needed
- ③ Preserve any callee-saved regs
that we use s0-s1

③ Computation

call a function

- ④ Preserve any callee-saved regs *
on the stack if needed
a0-a7 to-t6
- ⑤ Put values into args; a0, a1, ...
- ⑥ call func
- ⑦ use/store a0

- ⑧ restore caller-saved regs *
 - ⑨ computation
 - ⑩ restore any callee saved regs
 - ⑪ restore ra if needed
 - ⑫ deallocate the stack addi sp, sp, x
 - ⑬ ret
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array

offset

$$\&arr[i] = arr + \underline{(i * 4)}$$