Topics

registers   32
instructions
labels

register conventions
function calling convention

Simple functions

arrays
if / else
loops

Memory / Arrays

		64		32		8
loads	:	ld	,	lw	,	lb
stores	:	sd	,	sw	,	sb

double   word   byte
8 bytes   4 bytes   1 byte

lw t0, (a0)   # t0 = *a0;
        ↑
    address   STACK

Main () {
    int arr[3]

}

add3arc_s:
    lw t0, (a0)

S
4
3

Stores

sw t0, (a0)   # *a0 = t0
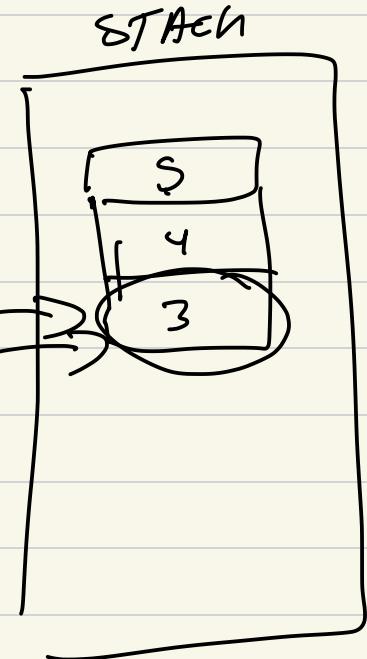
Control

Branches   and Jumps
     ↓   ↓
conditional   unconditional

ble a0, zero) else
  ↓   └────┘   ──── target address

branch on less than or equal

Simple Function

Rules

1) arguements passed in $a0, a1, a2, \ldots$

2) return value put into $a0$

3) Only use $\underline{a}$ regs and $\underline{t}$ regs

   Don't use $\underline{s}$ regs.

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mv $a0, t0$ # $\underline{a0 = t0}$

sw $t0, (aa)$ #   ~~*~~$a0 = t0$

Memory

STACK
DATA

HEAP
DATA

do
addr

GLOBAL
DATA

CODE