Processor
Registers

Autograder timeouts

| Xo |
| X1 |
| X2 |
| : |
| : |
| X31 |

PC

Function calls

PC = foo
RA = caller

foo:
    addi sp, sp, -16
    sd ra, (sp)
    }

    call bar

RA = PC+4 *mv t0, a0

    }

    ld ra, (sp)
    addi sp, sp, 16
    ret (PC = RA)

bar:
    addi a0, a0, 1
    }

    ret (PC = RA)

PC →

add t0, a0, a1
         ↑
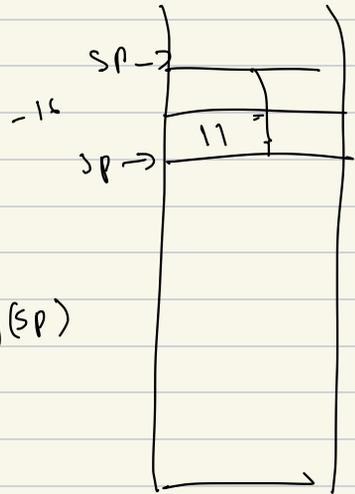   PC
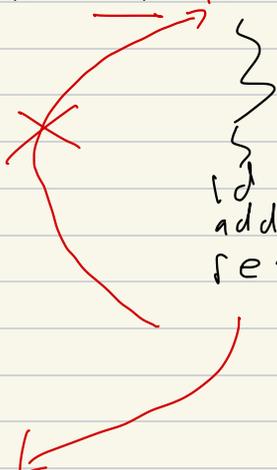
More than 8 arguments

```
foo:
    li a0, 3
    li a1, 4
    li a2, 5
    li a3, 6
    li a4, 7
    li a5, 8
    li a6, 9
    li a7, 10
    addi sp, sp, -16
    li t0, 11
    sw t0, (sp)
    call bar
```

bar:
    lw t0, (sp)

SP-?

-16

sp →

11

nine.args.c.s

```
                            sp →    ┌──────────┐
                   ┐             │  a 8     │
              so ──┘            ├──────────┤
                               │  r a     │
                               │  a 0     │
                               │  a 1     │
                               │  a 2     │
                               │  a 3     │
                               │          │
                               │  a 4     │
                               │  a 5     │
                               │  a 6     │
                               │  a 7     │
                               └──────────┘
```