2024\13-codegen-riscv\riscv-in-class-2023\array-for.asm

```
.data
numbers: .word -30, 30, -20, 20, -10, 10, 0
size: .word 7

positive_sum: .word 0
negative_sum: .word 0

.text
la t0, numbers          # t0: the address of the array
lw t1, size             # t1: size = 7

mv t2, zero             # counter, initially 0

li t3, 0                        # t3: sum of positive numbers <- 0
li t4, 0                        # t4: sum of negative numbers <- 0

loop:
        bge t2, t1, end_loop
        # numbers[t2]
        # mul t5, t2, 4
        slli t5, t2, 2          # slli: shift left logical immediate
        add t5, t0, t5
        lw t5, 0(t5)

        addi t2, t2, 1

        bltz    t5, negative                    # bltz: branch if less than zero
        add t3, t3, t5
        j loop

negative:
        add t4, t4, t5
        j loop

end_loop:
        sw, t3, positive_sum, t5
        sw, t4, negative_sum, t5
```