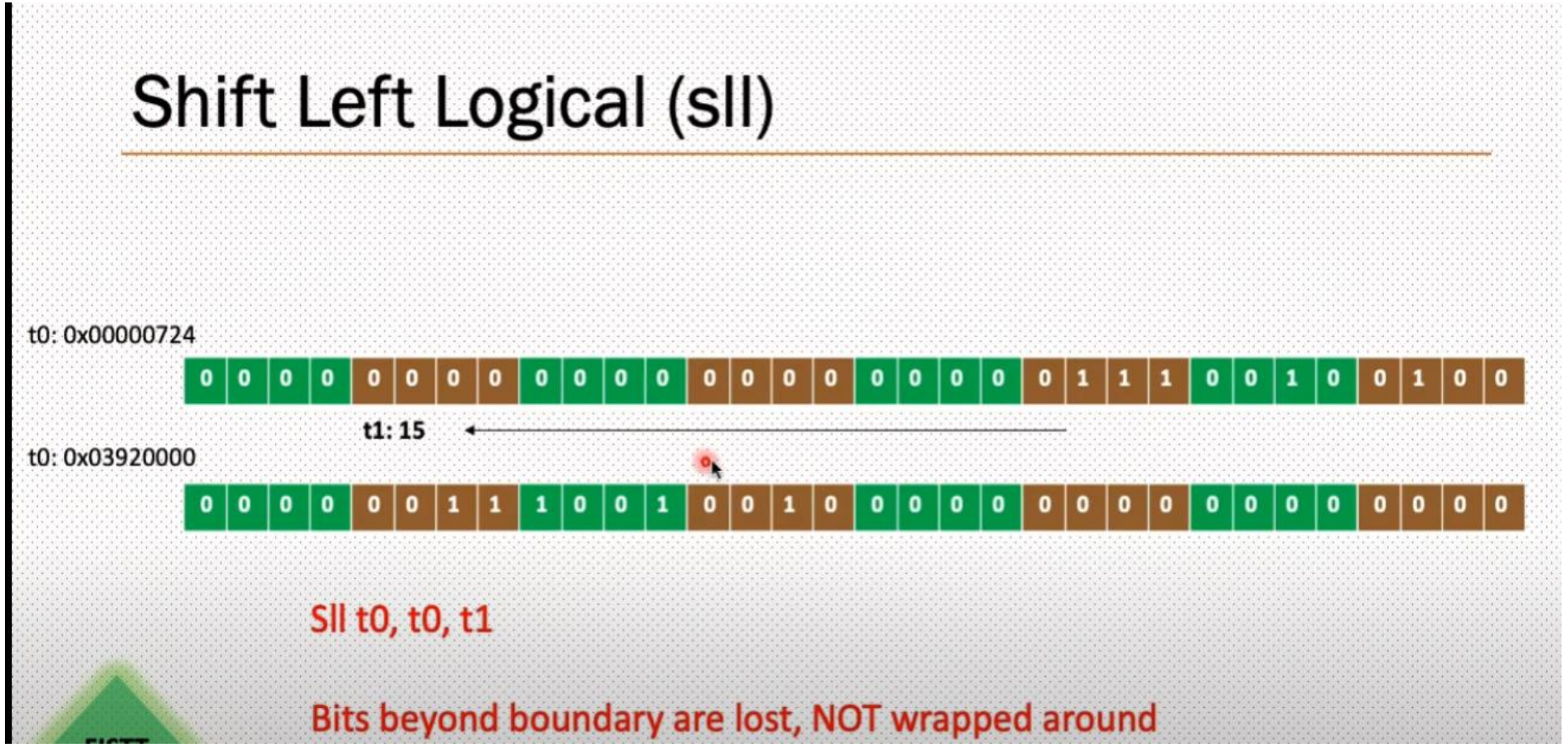
arithmetic and logical

Arithmetic & Logical Instructions

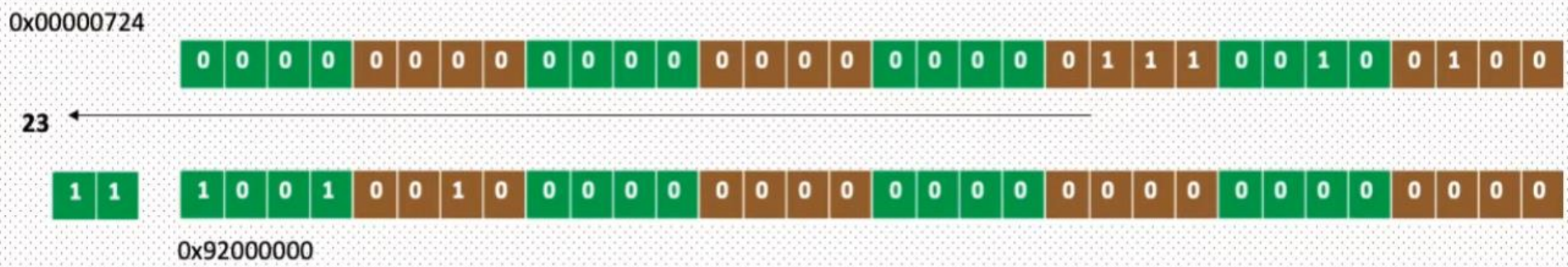
Instructions(Group1)	Brief
ADDI/ADD	Addition
SUB	Subtraction
SLT/SLTI/SLTU/SLTIU	Comparison

Instructions(Group2)	Brief
SLL/SLLI	Shift left logical
SLA/SLAI	Shift left arithmetic
SRA/SRAI	Shift right arithmetic
AND/ANDI	Bitwise AND
OR/ORI	Bitwise OR
XOR/XORI	Bitwise exclusive or

shift and bitwise



Shift Left Logical Immediate(slli)

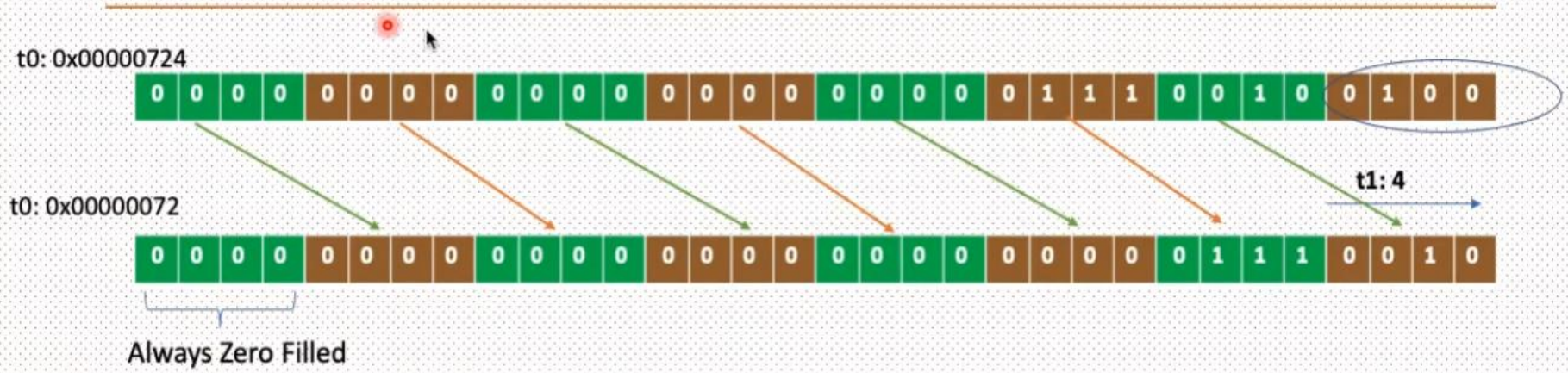


Slli t0, t0, 23

Bits beyond boundary are lost, NOT wrapped around

<imm5>

Shift Right Logical (srl)

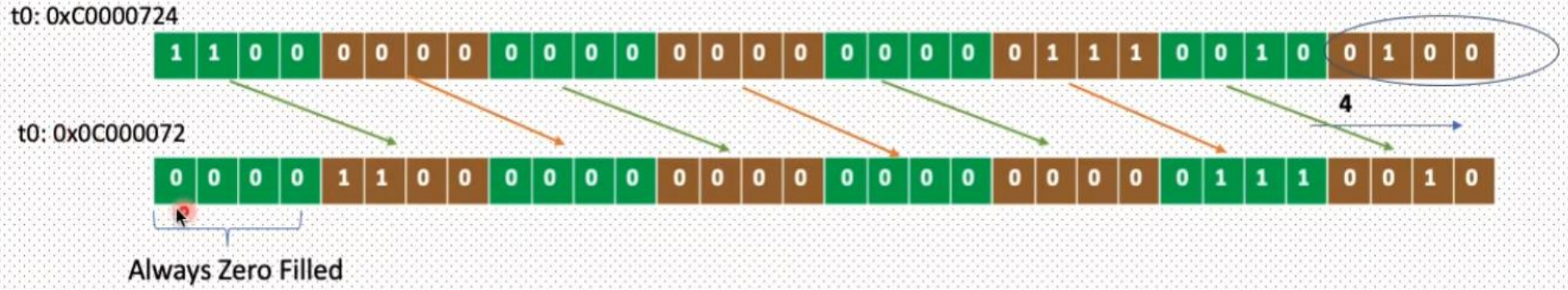


Srl t0, t0, t1

Bits beyond boundary are lost, NOT wrapped around

FISTT

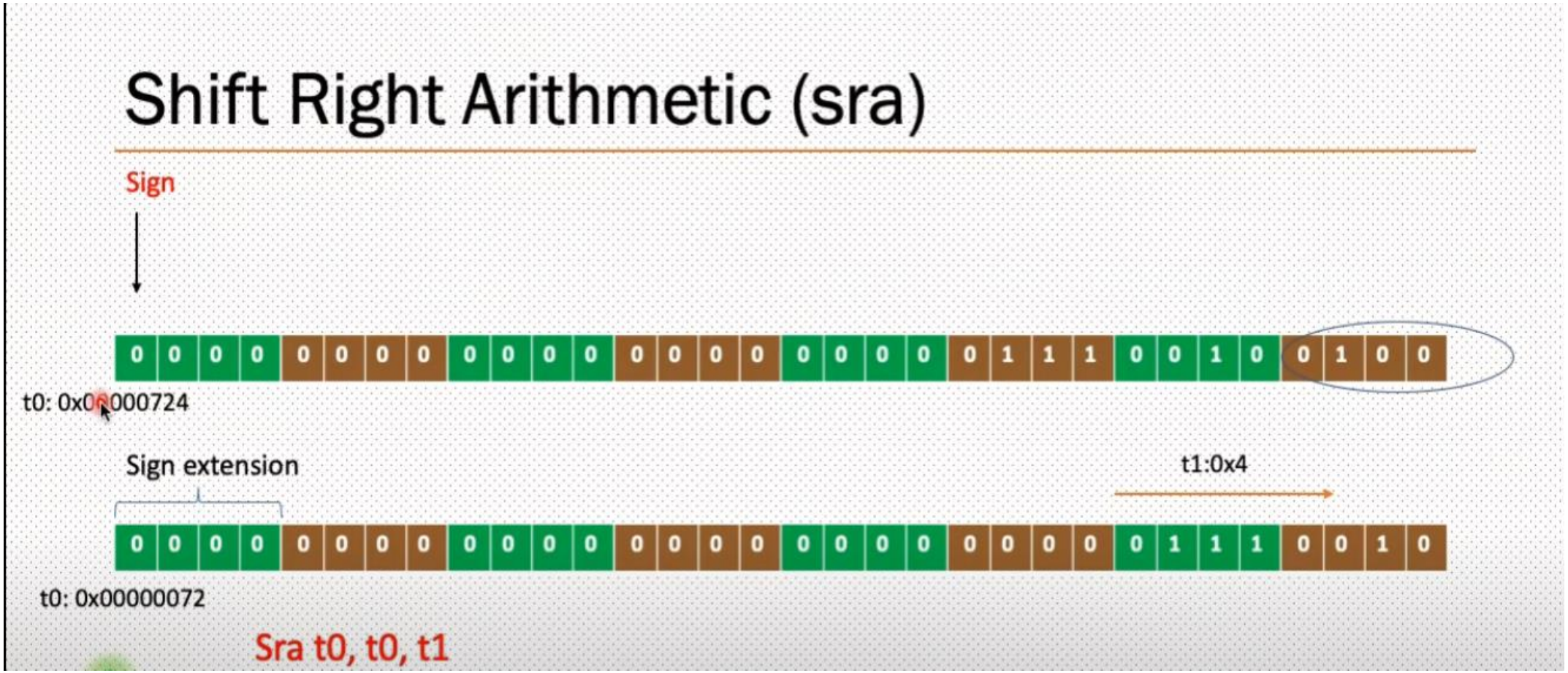
Shift Right Logical Immediate (srli)



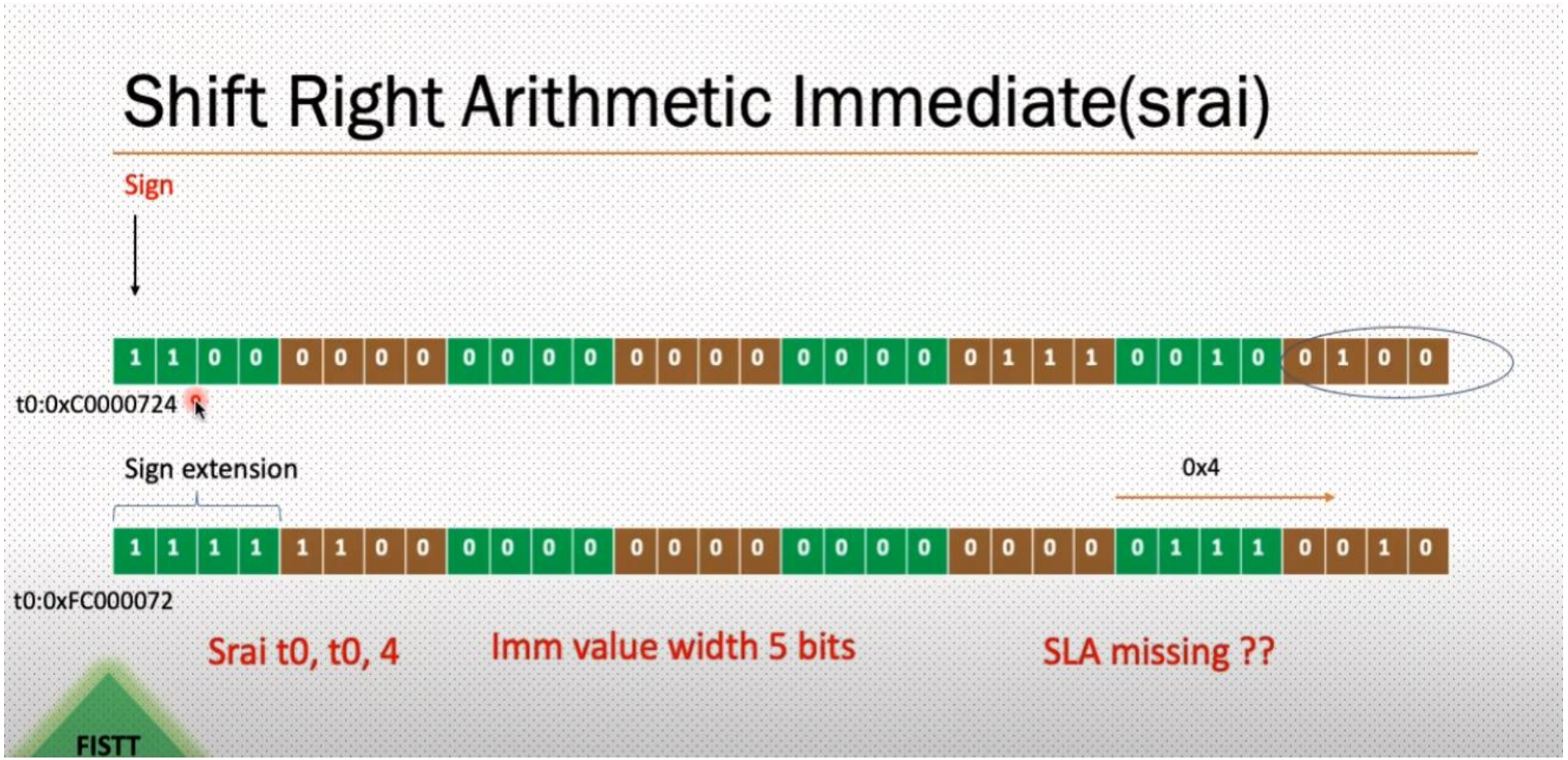
Srli t0, t0, 4
<imm5>

FISTT

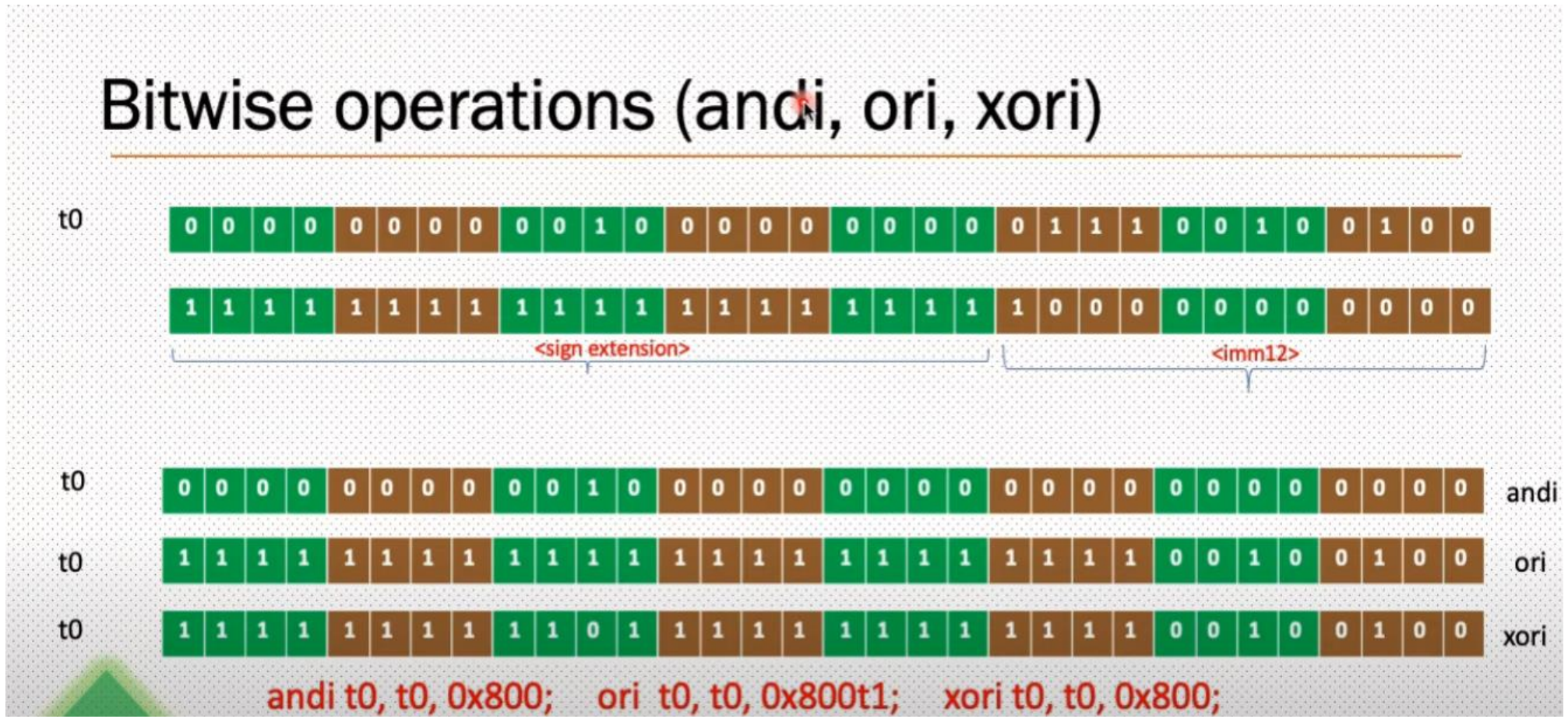
Shift Right Arithmetic (sra)



Shift Right Arithmetic Immediate(srai)



Bitwise operations (andi, ori, xori)



jump

- jal rd, offset

```
loop:  addi x5, x4, 1          # x5 ⟵ x4 + 1
jal x1, loop                   # Goto loop x1 ⟵ address[loop]
```

- jalr rd, offset

```
addi x1, x0, 3              # x1 ⟵ x0 + 3
loop:  addi x5, x0, 1       # x5 ⟵ x0 + 1
jalr x0, 0(x1)              # x0 ⟵ mem[x1 + 0]
```