③ bltu x11, x23, 2768

0010110 | 10111 | 01011 | 110 | 10001 | 1100011

10111 = rs2, 01011 = rs1, 110 = FN3, 1100011 = opcode

2768 = 1010 1101 0000

1 | 10:5 | 4:1

0X2D75E8E3

④ bltu x23, x7, -1436

1010011 | 00111 | 10111 | 110 | 00101 | 1100011

00111 = rs2, 10111 = rs1, 110 = FN3, 1100011 = opcode

-1436 = 1010 0110 0100

1 | 10:5 | 4:1

0XA67BE2E3

⑤ x5 = 0x89abcdef

Instruction sequence:

sw x5, 40(x0)

lb x7, 42(x0)

40	41	42	43
cf	cd	ab	89

=> **x7 = 0xffffffab**

⑥ PC = 0x00000450

Instruction sequence:

addi x9, x0, 0xff7 => x9 = 0xfffffff7

1111 1111 1111 1111 1111 1111 1111 0111 < 1

slli x10, x9, 1

1111 1111 1111 1111 1111 1111 1110 1110

bge x9, x10, 12 => x10 = 0xfffffdec

PC = 0x00000450 + 4 0x00000454

PC = 0x00000454 + 4 0x00000458

If x9 >= x10, yes

PC = 0x00000458 + 12 = **0x00000464**

⑦ Instruction sequence

lui x12, 0x87654 => x12 = 0x87654000

slt x12, x12, x0

If x12 < x0, yes

x12 = 0x00000001