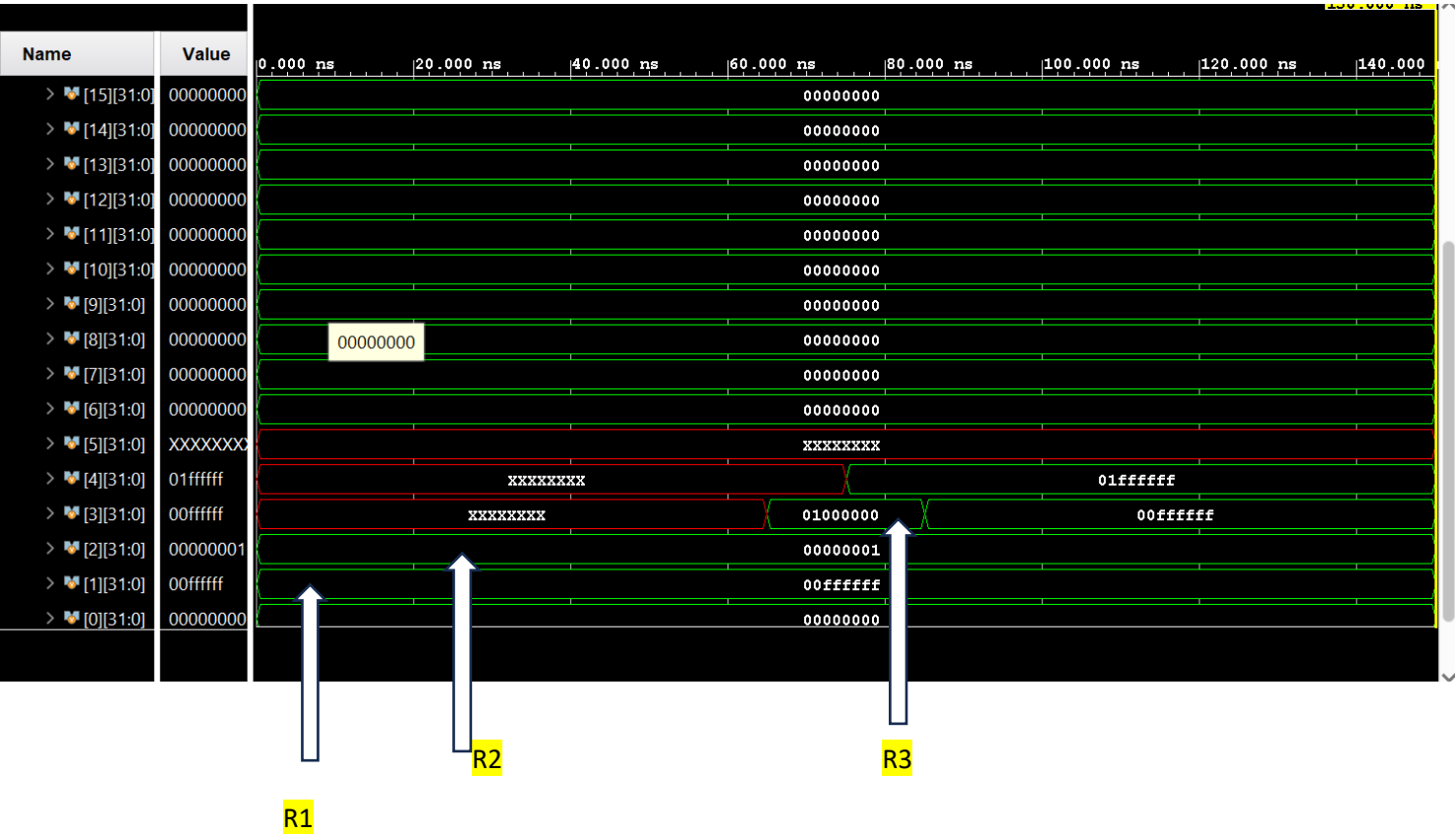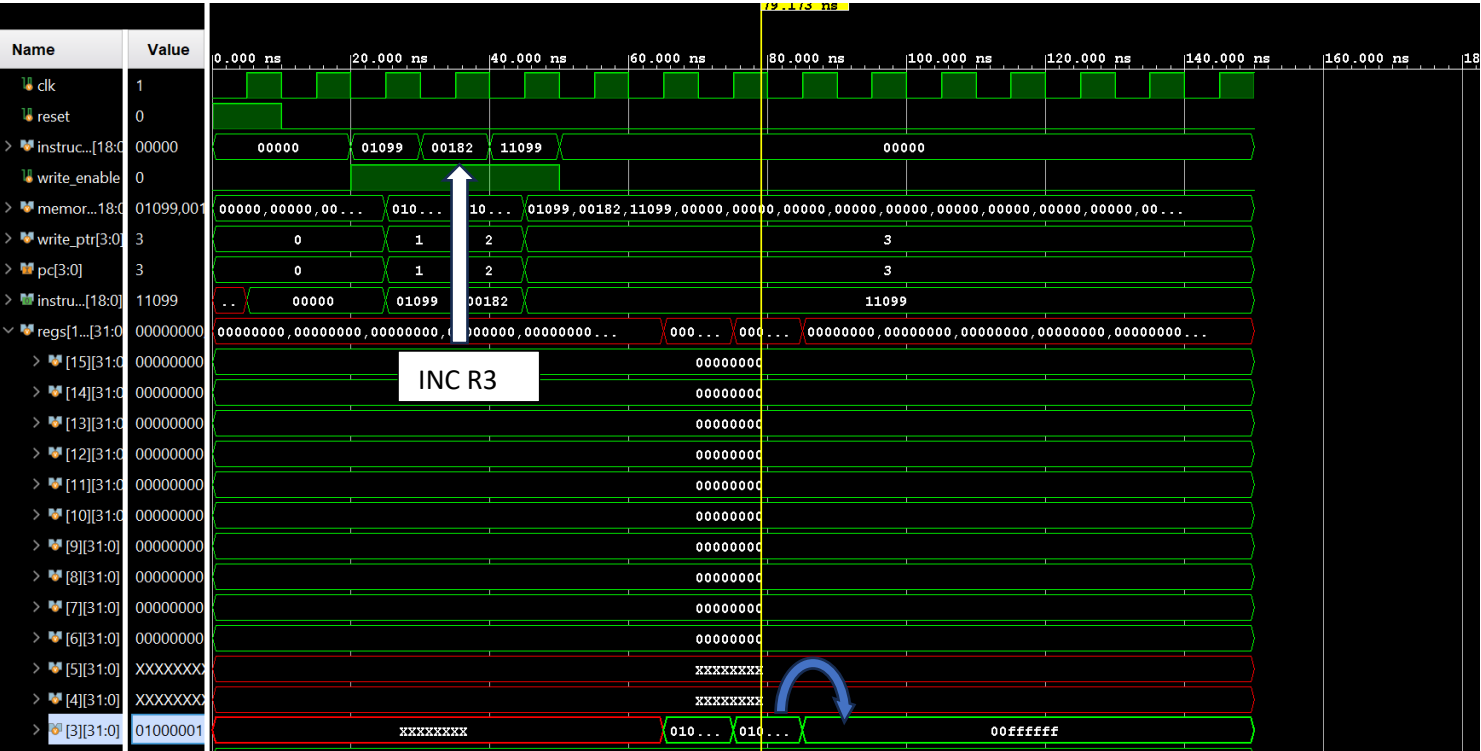*Please ignore xxxx.. I have purposefully not assigned them 0 for now.
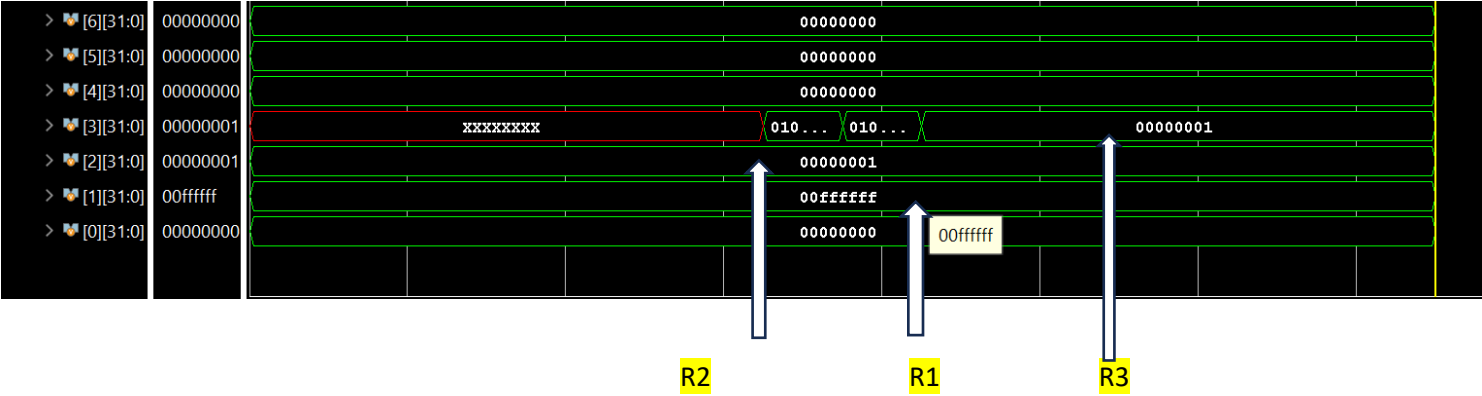
ADD R3 R1 R2

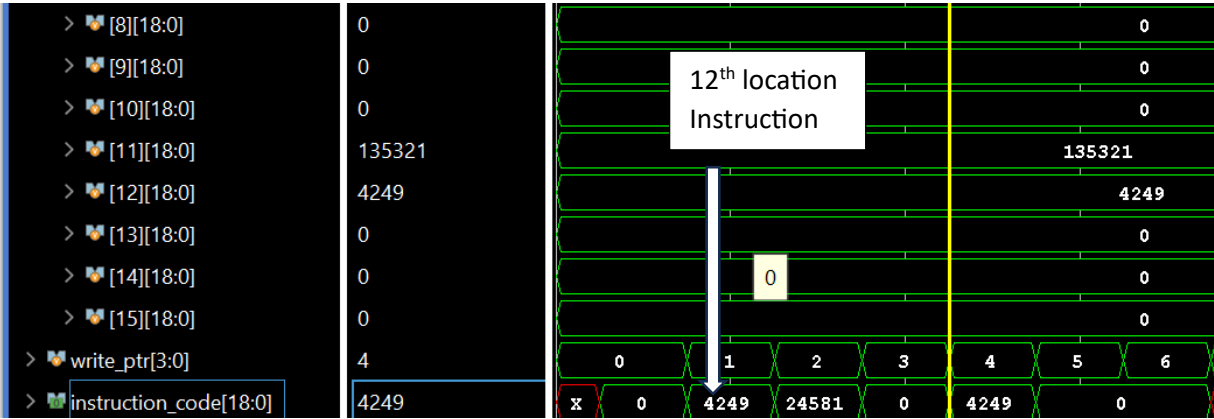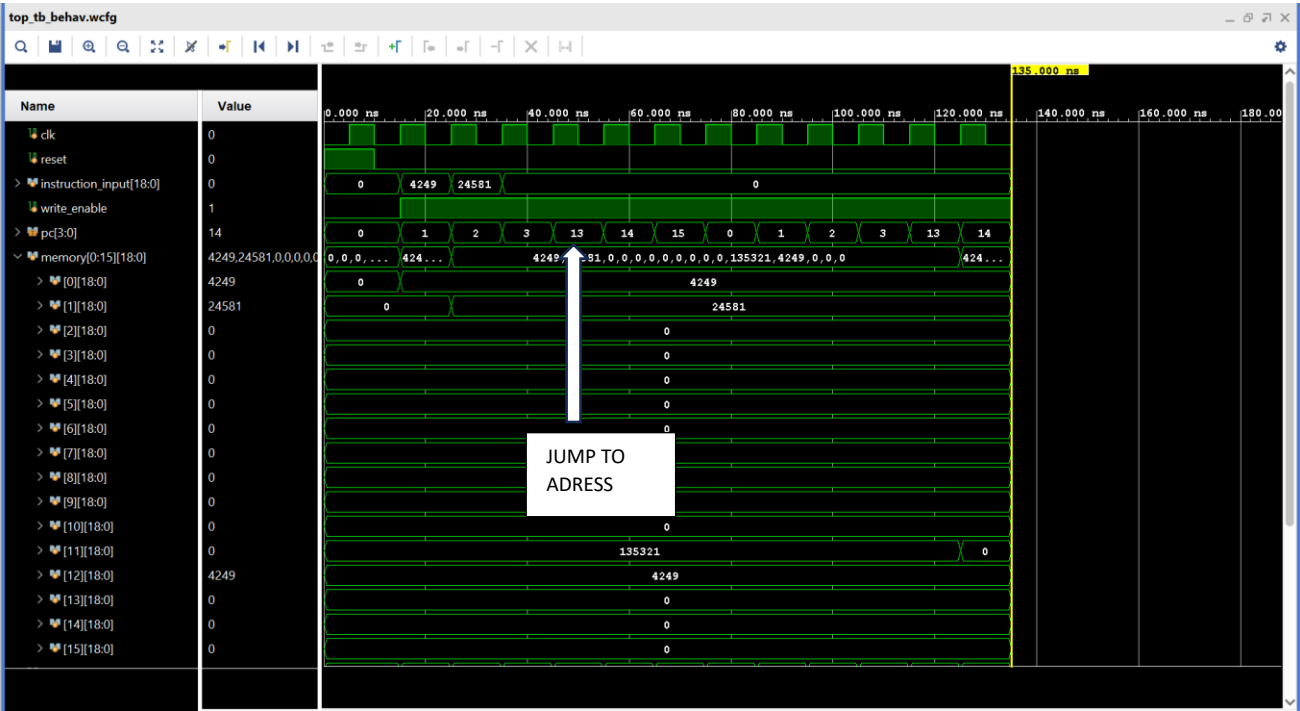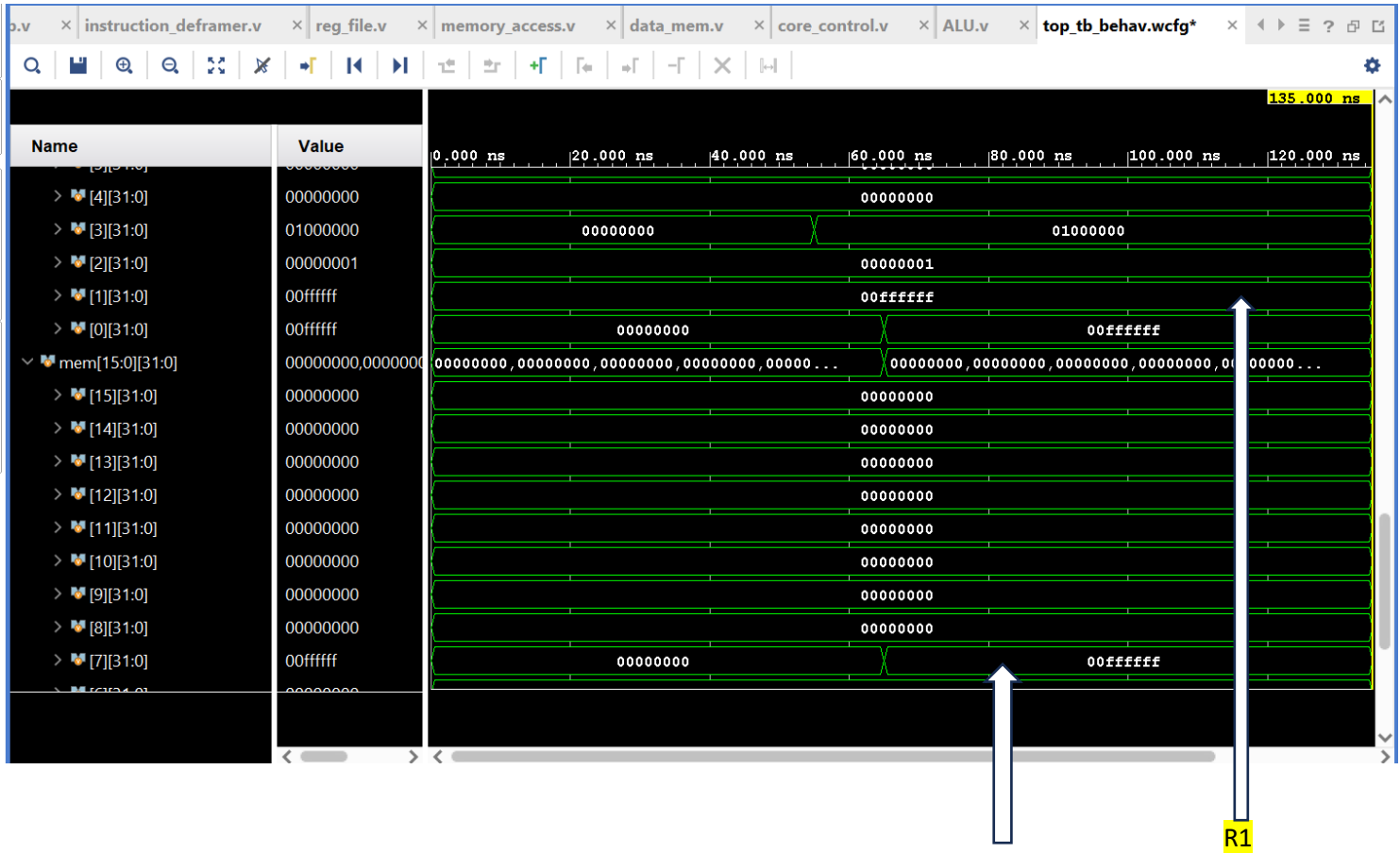## INC R3

AND R3 R2 R1

R2   R1   R3

JUMP 0x0C -

JUMP TO ADRESS
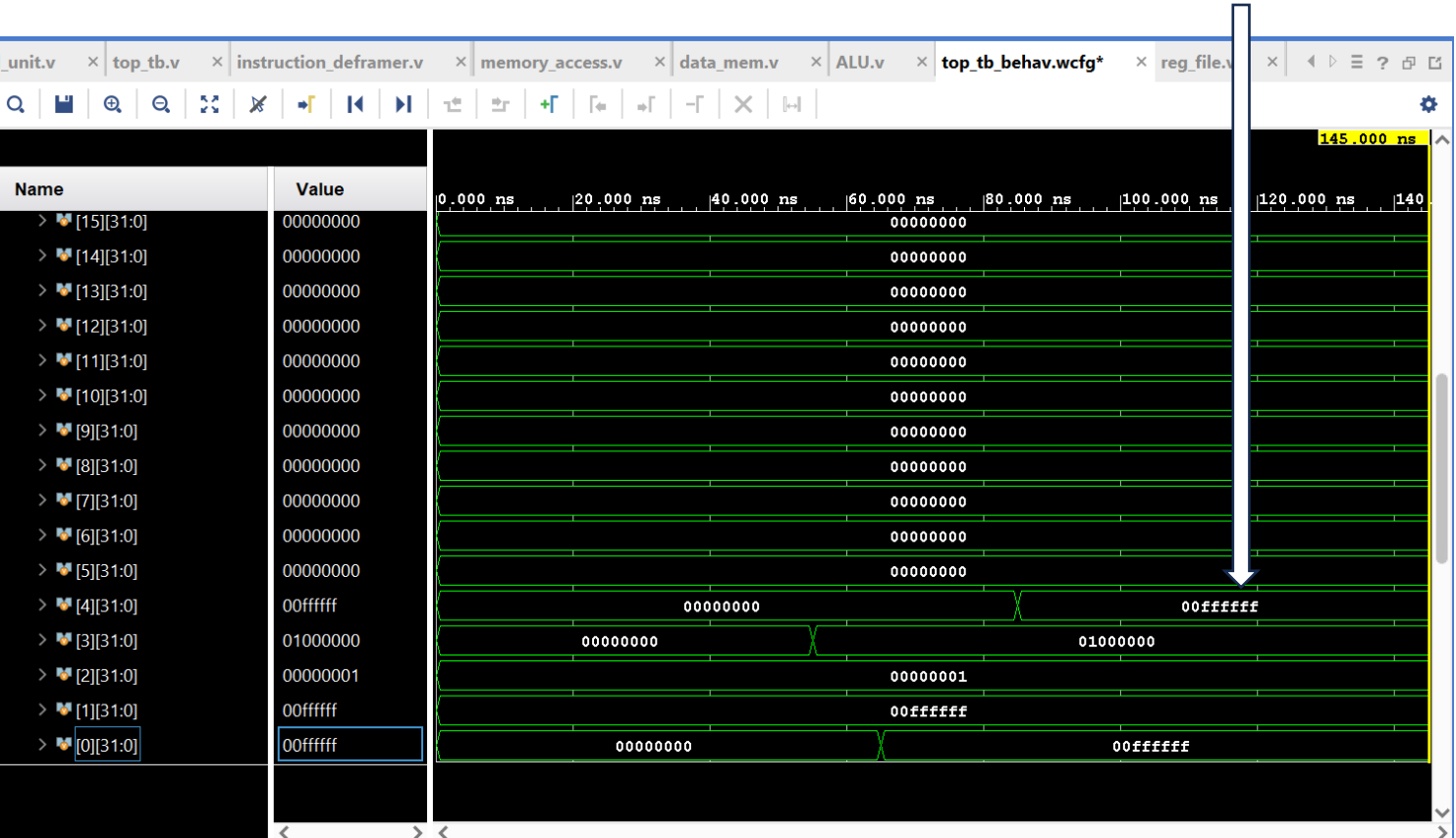

12th location Instruction
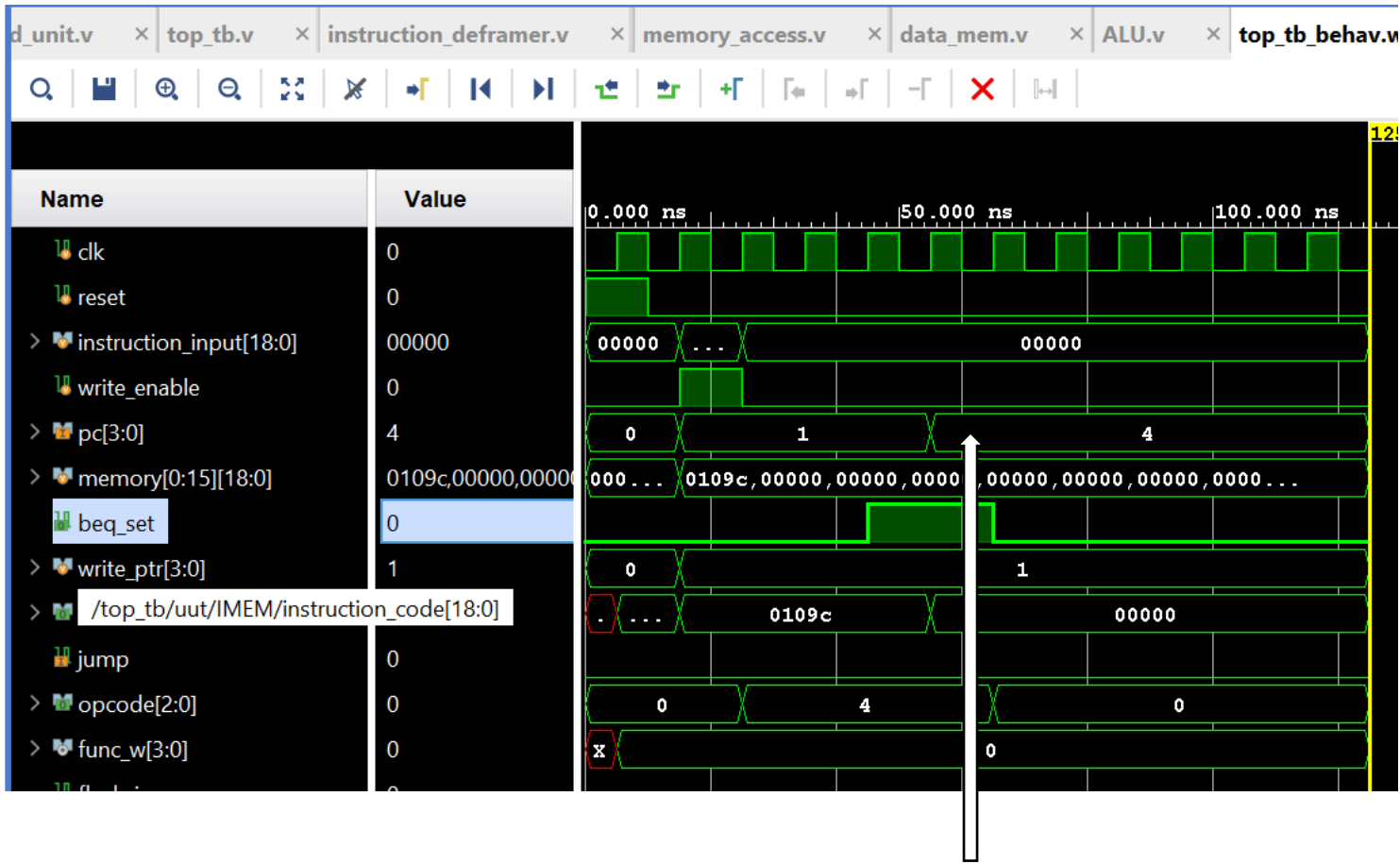
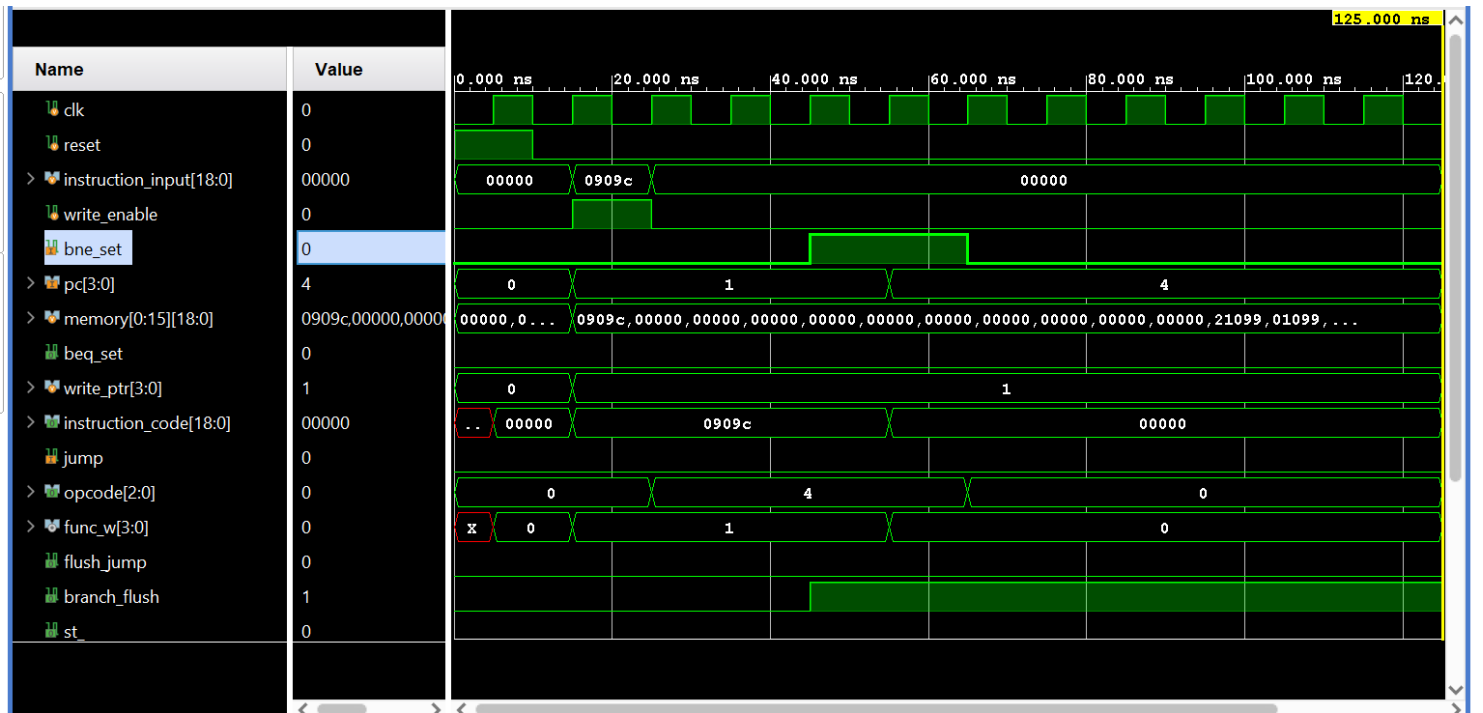## ST 0x07 R1

R1

Memory Loc 0x07

LD R4 0x07-

R4

BEQ_R1 R2 0x03   (* Note – The PC value shown here is actually instruction index +1)

PC=04

BNE R1 R2 0X03

ENX r1, r2

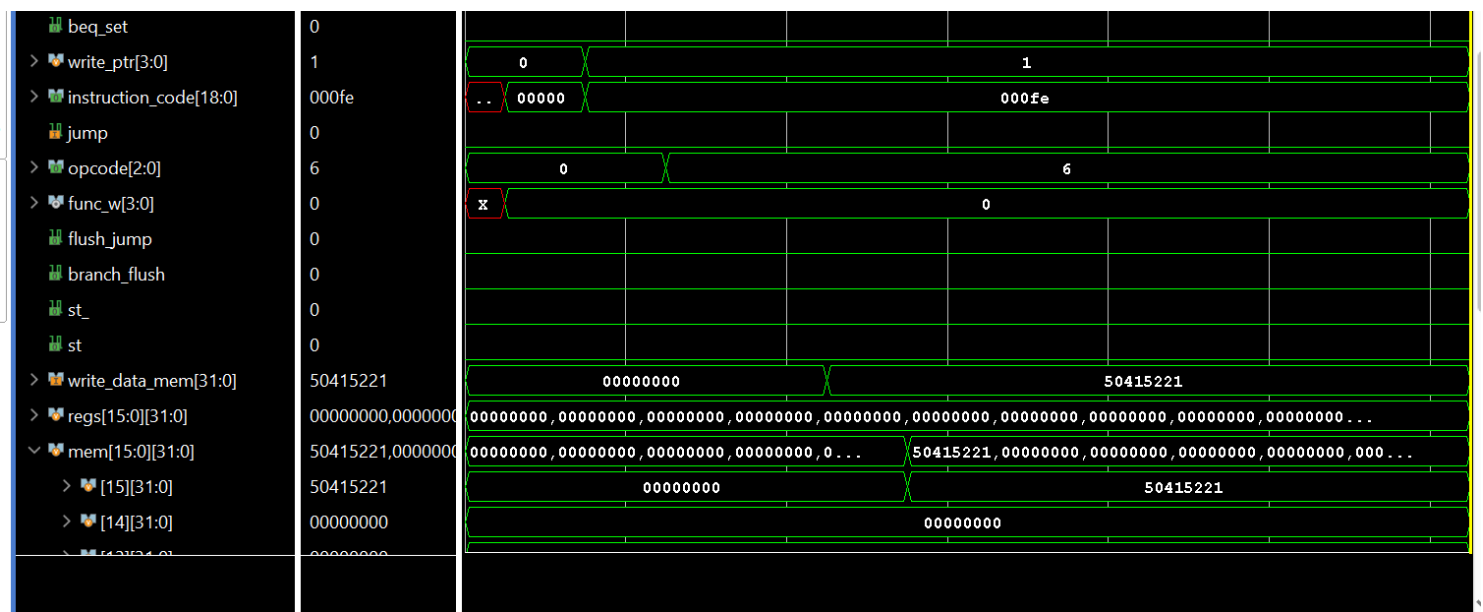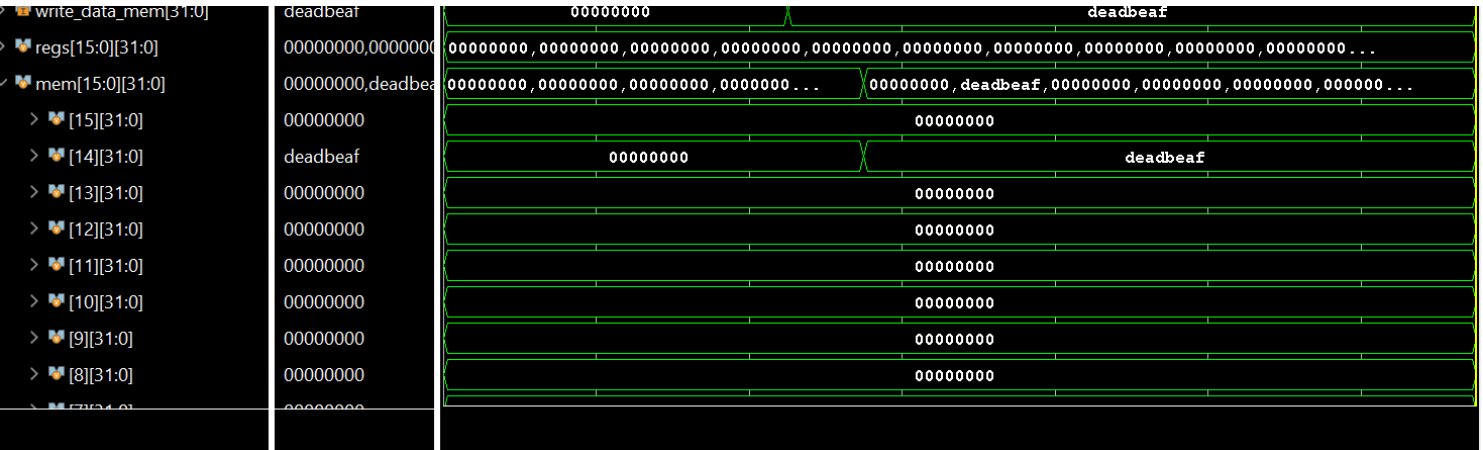| Signal	Value
beq_set	0
write_ptr[3:0]	1
instruction_code[18:0]	000fe
jump	0
opcode[2:0]	6
func_w[3:0]	0
flush_jump	0
branch_flush	0
st_	0
st	0
write_data_mem[31:0]	50415221
regs[15:0][31:0]	00000000,0000000
mem[15:0][31:0]	50415221,0000000
[15][31:0]	50415221
[14][31:0]	00000000

Location pointed by R2=15

Value of R1- 0xDEADDEAF (formula for encryption- {~src1[7:0], ~src1[15:8], ~src1[23:16], ~src1[31:24]};

DEX R1 R2

Signal	Value
write_data_mem[31:0]	deadbeaf
regs[15:0][31:0]	00000000,0000000
mem[15:0][31:0]	00000000,deadbea
[15][31:0]	00000000
[14][31:0]	deadbeaf
[13][31:0]	00000000
[12][31:0]	00000000
[11][31:0]	00000000
[10][31:0]	00000000
[9][31:0]	00000000
[8][31:0]	00000000

R2 is pointing 14th loc and data used for decryption is the Encrypted data