# NANO PROCESSOR
# GROUP - 44

# CONTENT



**PROGRAM ROM**

**REGISTER BANK**

**MULTIPLEXER**

**02**

**04**

**06**

**PROGRAM COUNTER**

**01**

**07**

**ALU**

**03**

**05**

**INSTRUCTION DECODER**

**DATA BUS**

# PROGRAM COUNTER
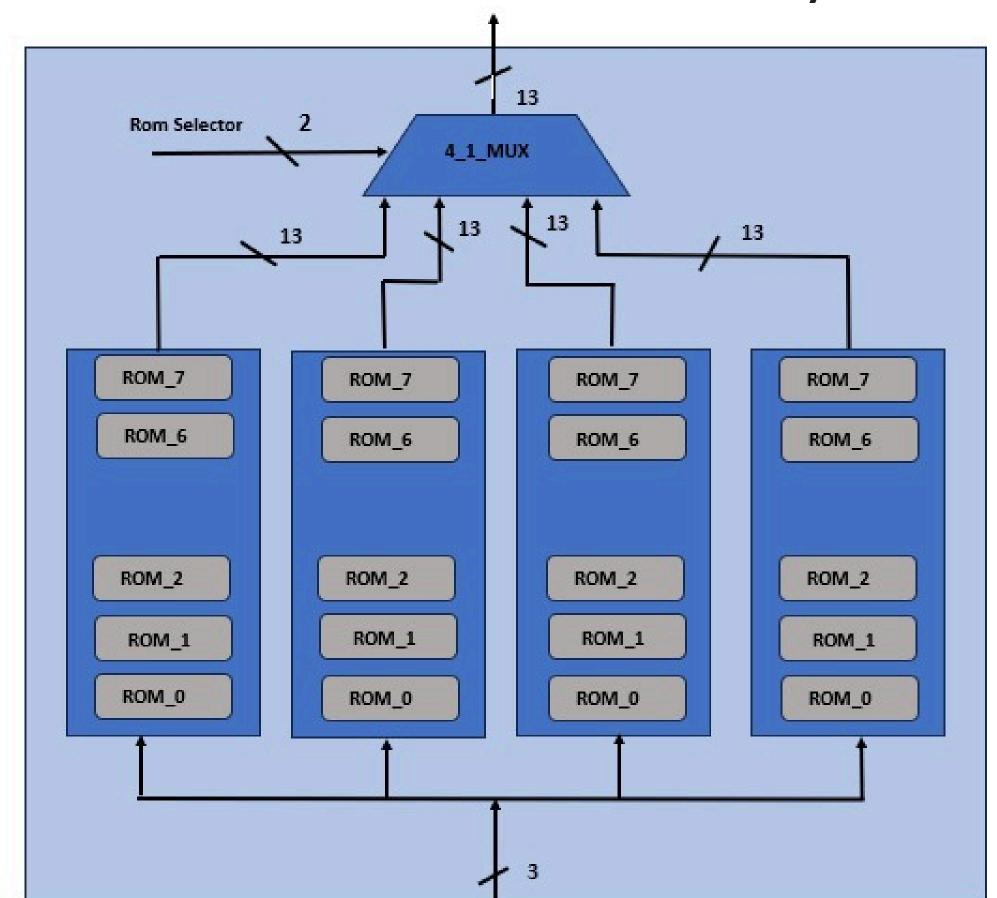
Points to the next Instruction

Implemented by a Register

# EXTENDED INSTRUCTIONS
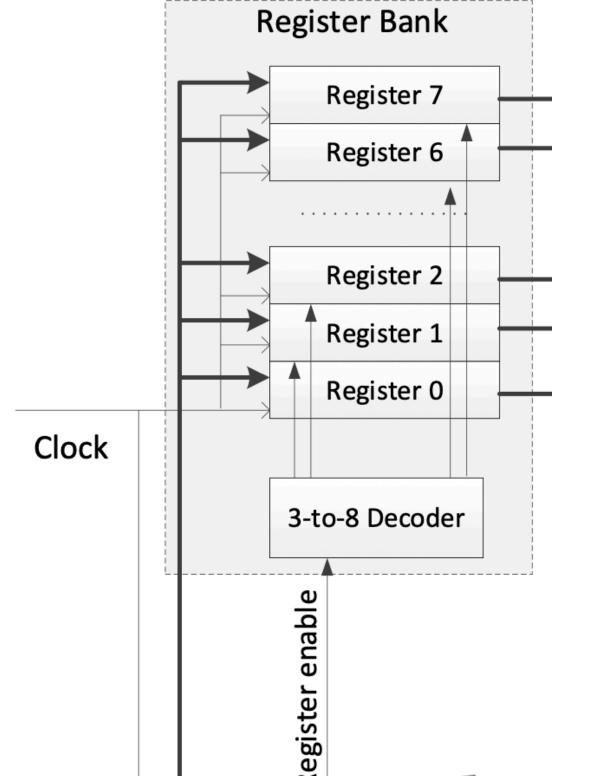
- 010 –› MOV
- 000 –› ADD
- 001 –› NEG
- 011 –› JZR
- 100 –› SUB
- 101 –› JMP
- 110 –› JNZR
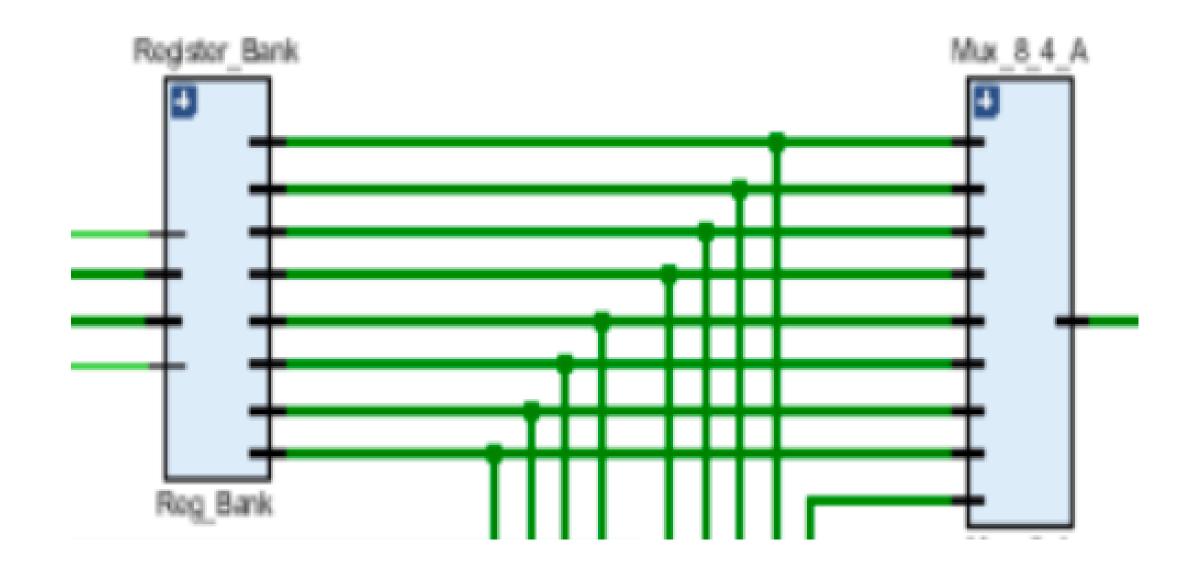- 111 –› END
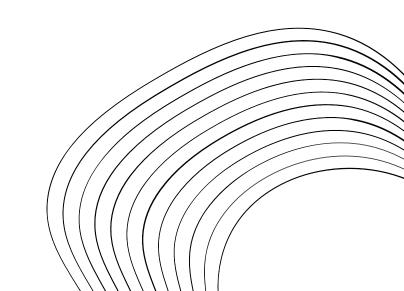
Terminate the Program

clkEn <= '0';

**Significantly reduce Power Consumption**

# REGISTER BANK

clk ⟷ clk_bar



Register Bank

Register 7

Register 6

Register 2
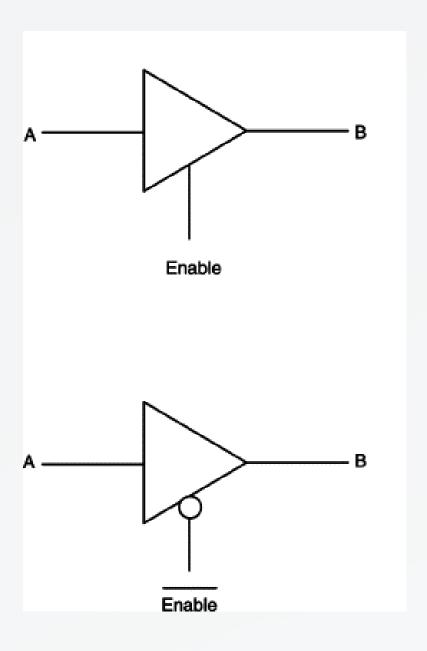
Register 1

Register 0

3-to-8 Decoder

Clock

Register enable

# DATA BUS
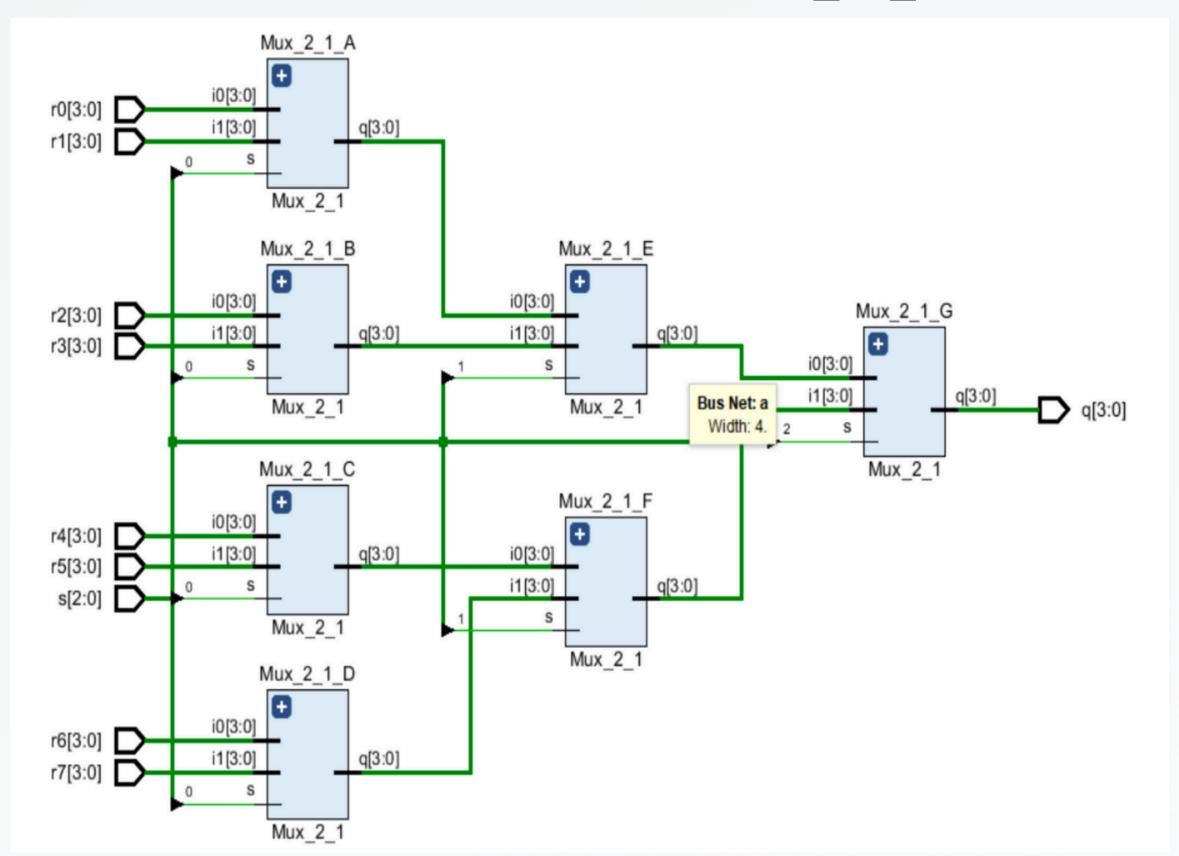
# Tri state BUF

# MULTIPLEXER_8_1

# ALU



input 1 —4→ **ALU** →
- Carry Flag
- Zero Flag
- Negative Flag
- Parity Flag(Odd)

input 2 —4→

4 →

select

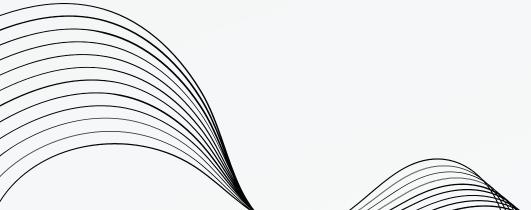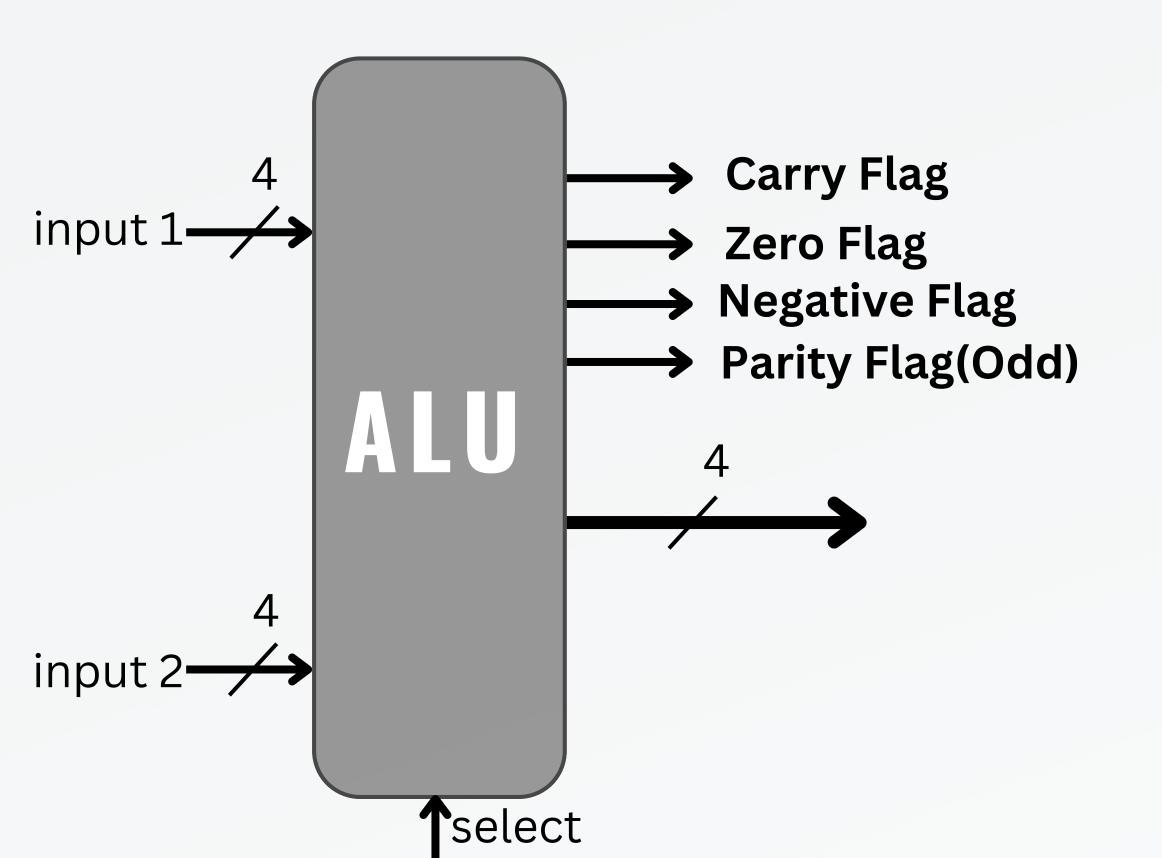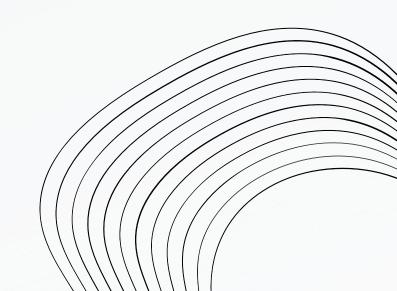**Addition and Substraction**

Positive --> 4-bits
Negative --> 3-bits

# THANK'S FOR ATTENTION