



SNS COLLEGE OF ENGINEERING



Kurumbapalayam(Po), Coimbatore – 641 107

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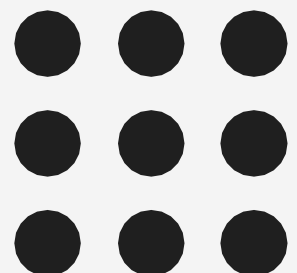
Department of Information Technology

**Course Name – 19IT301 Computer Organization and
Aechitecture**

II Year / III Semester

Unit 1 – Basic Structures of Computers

Topic :Instructions and Instructions Sequencing





Using Registers



- Registers are faster
 - Shorter instructions
- The number of registers is smaller (e.g. 32 registers need 5 bits)
- Potential speedup
 - Minimize the frequency with which data is moved back and forth between the memory and processor registers.

BRANCHING

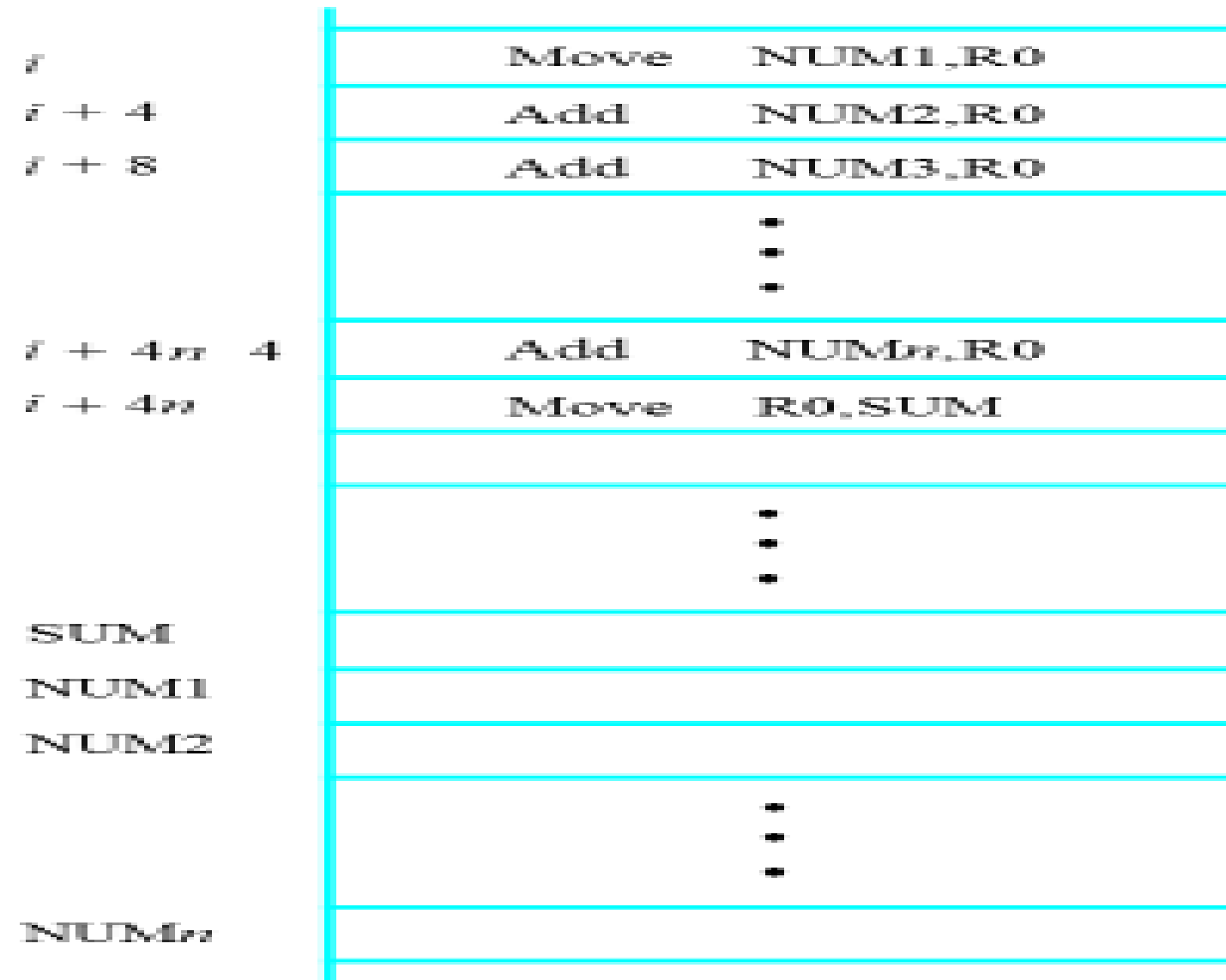


Figure 2.9. A straightline program for adding n numbers.

BRANCHING

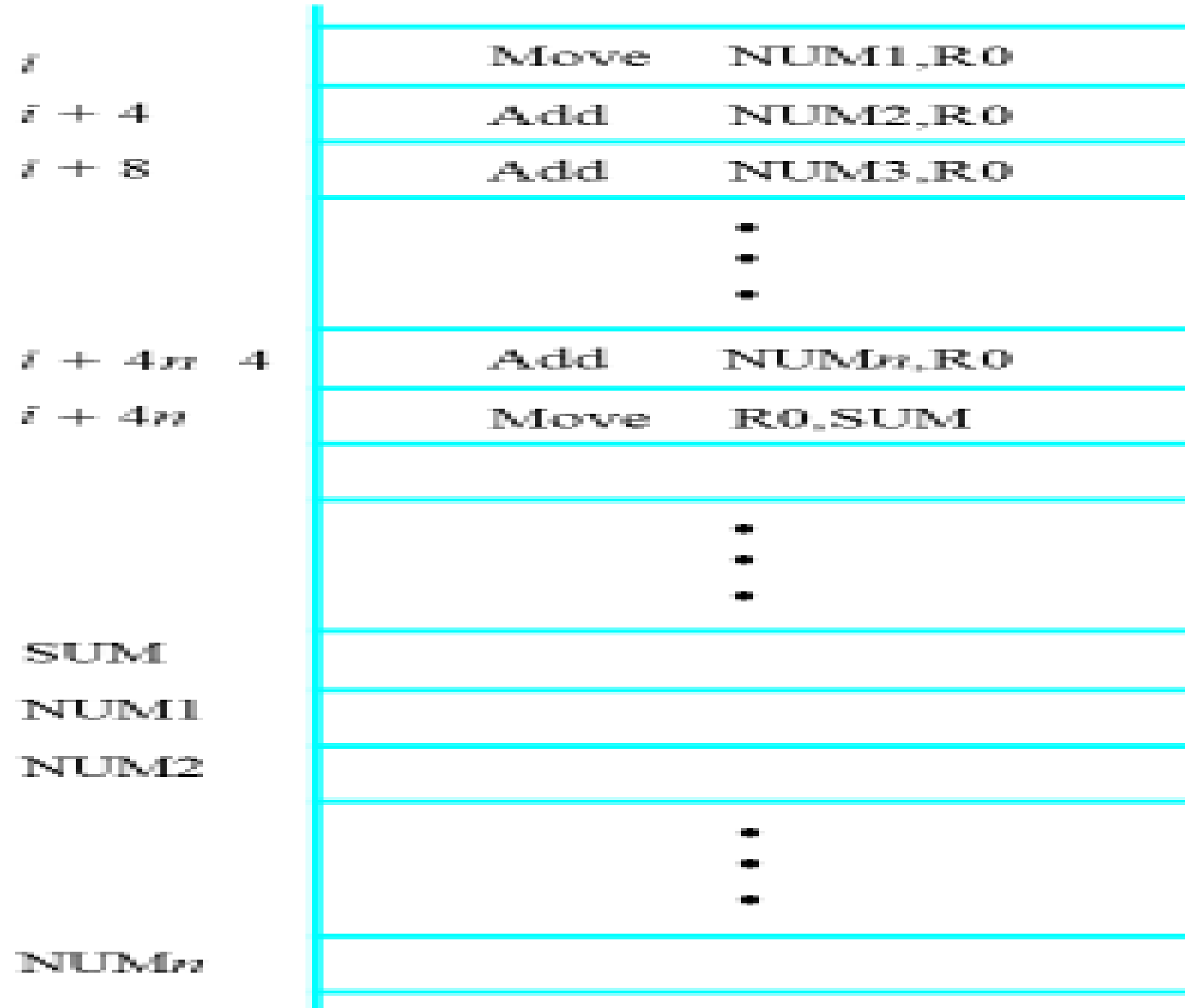


Figure 2.9. A straightline program for adding n integers

Instruction

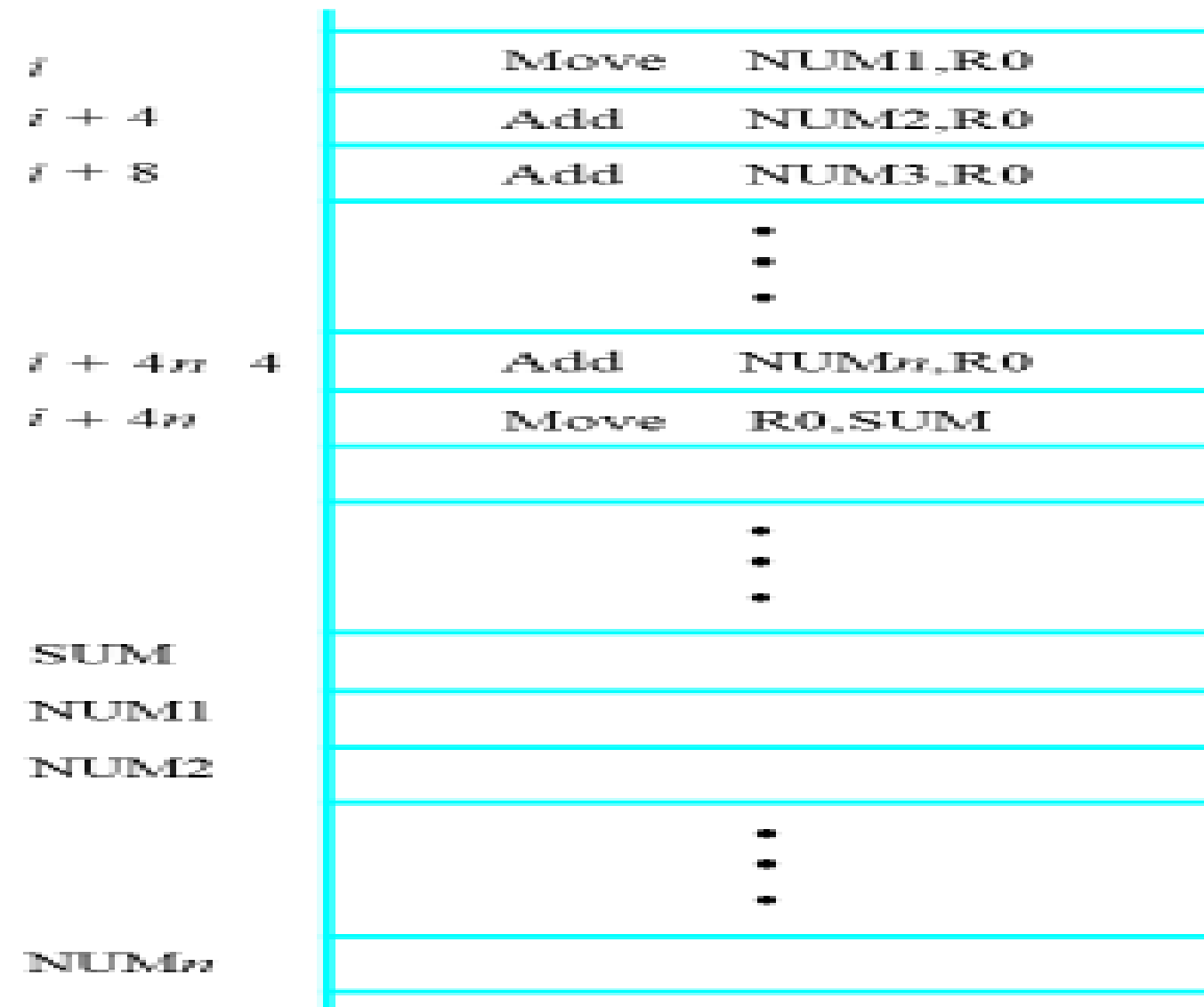


Figure 2.9. A straightline program for adding n numbers.



Condition Codes

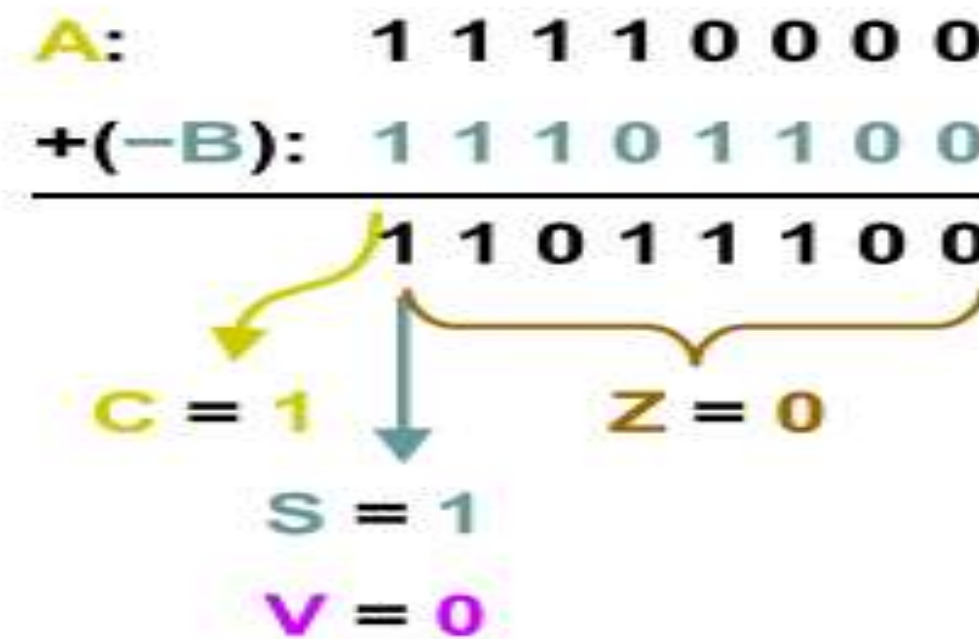


- Condition code flags
- Condition code register / status register
- N (negative)
- Z (zero)
- V (overflow)
- C (carry)
- Different instructions affect different flags

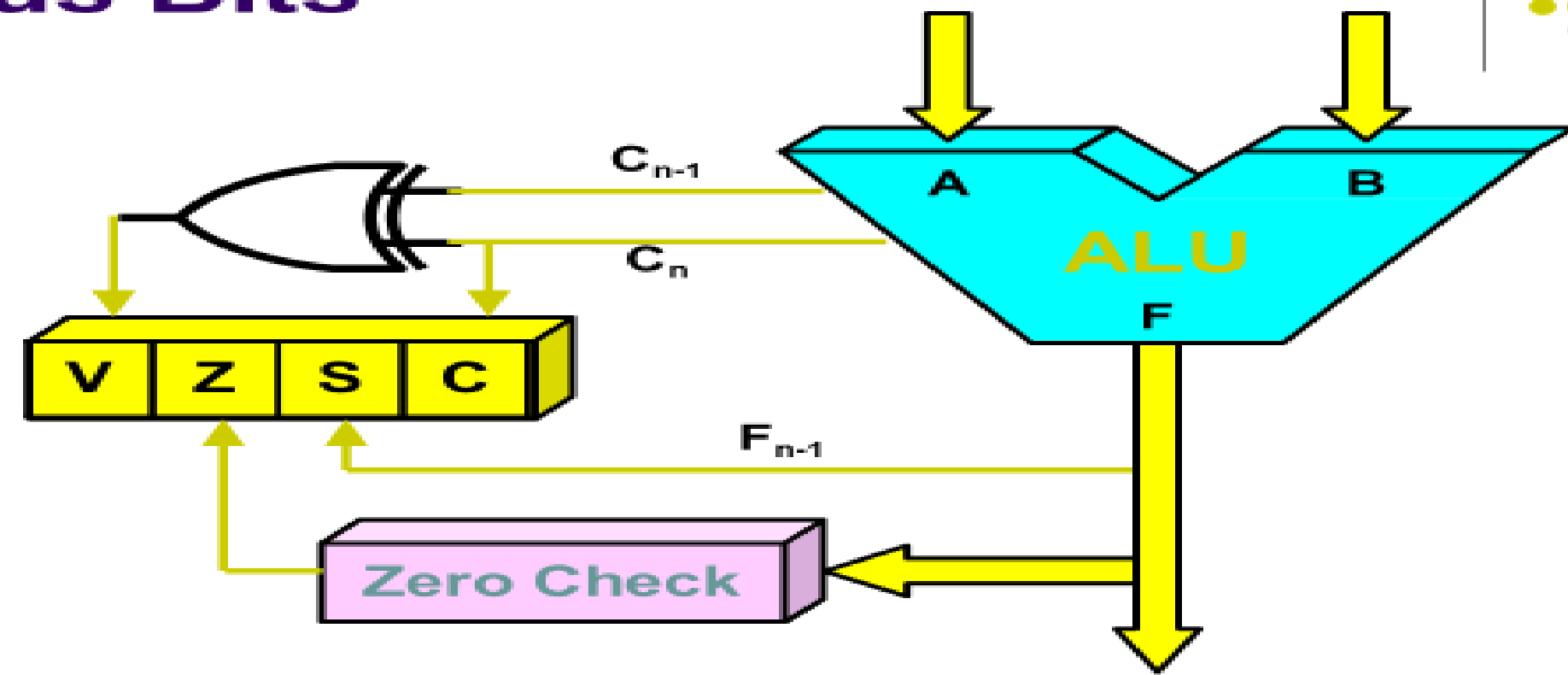
Conditional Branch Instructions

- Example:

- A: 1 1 1 1 0 0 0 0
- B: 0 0 0 1 0 1 0 0



Status Bits





THANK YOU