SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107
Accredited by NAAC-UGC with 'A' Grade
Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai

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

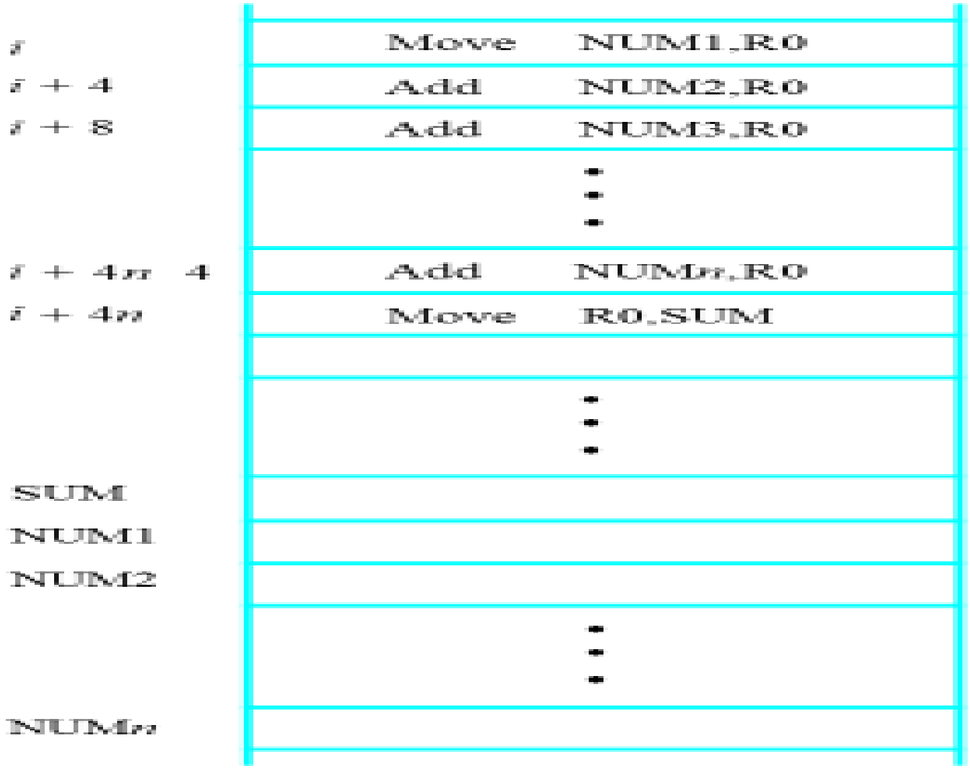


Figure 2.9. A straightline program for adding n numbers.

BRANCHING

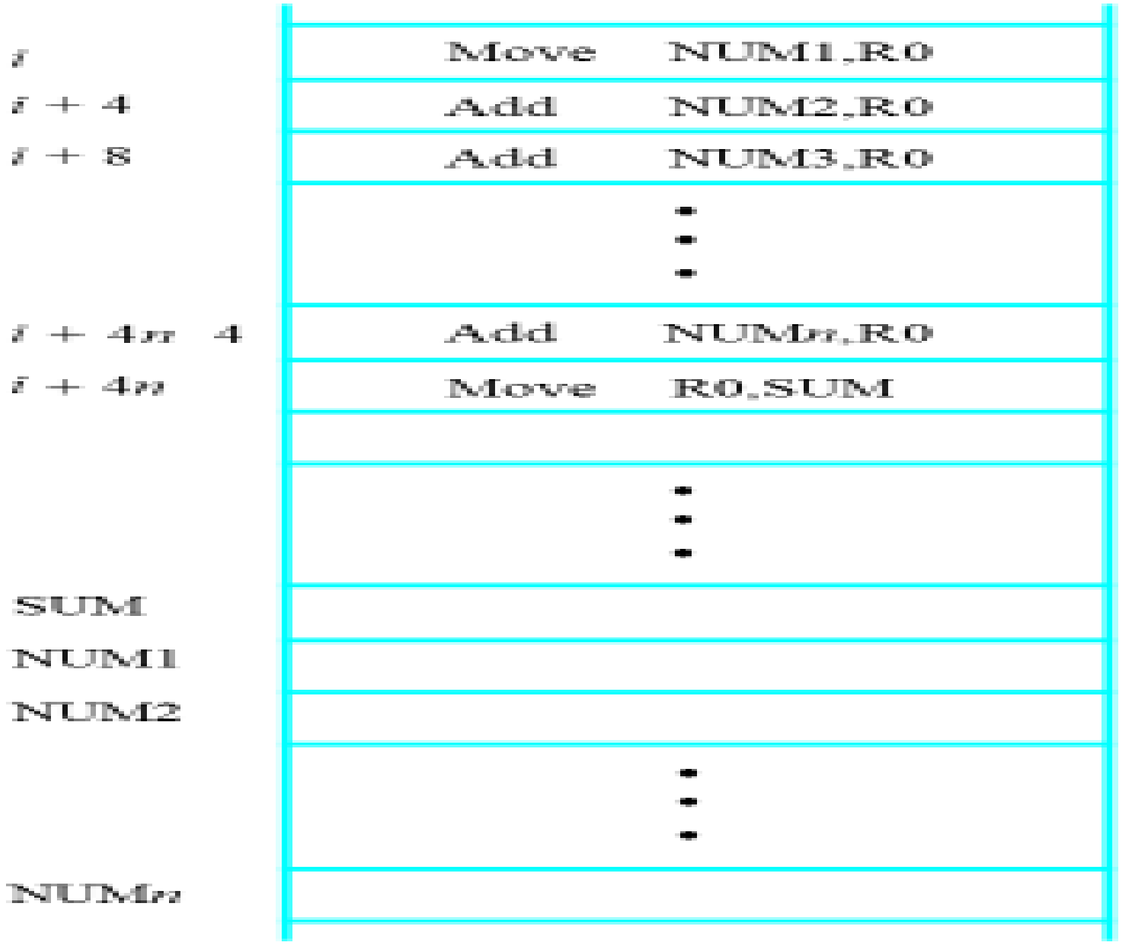


Figure 2.9. A straightline program for adding n numbers

Instruction

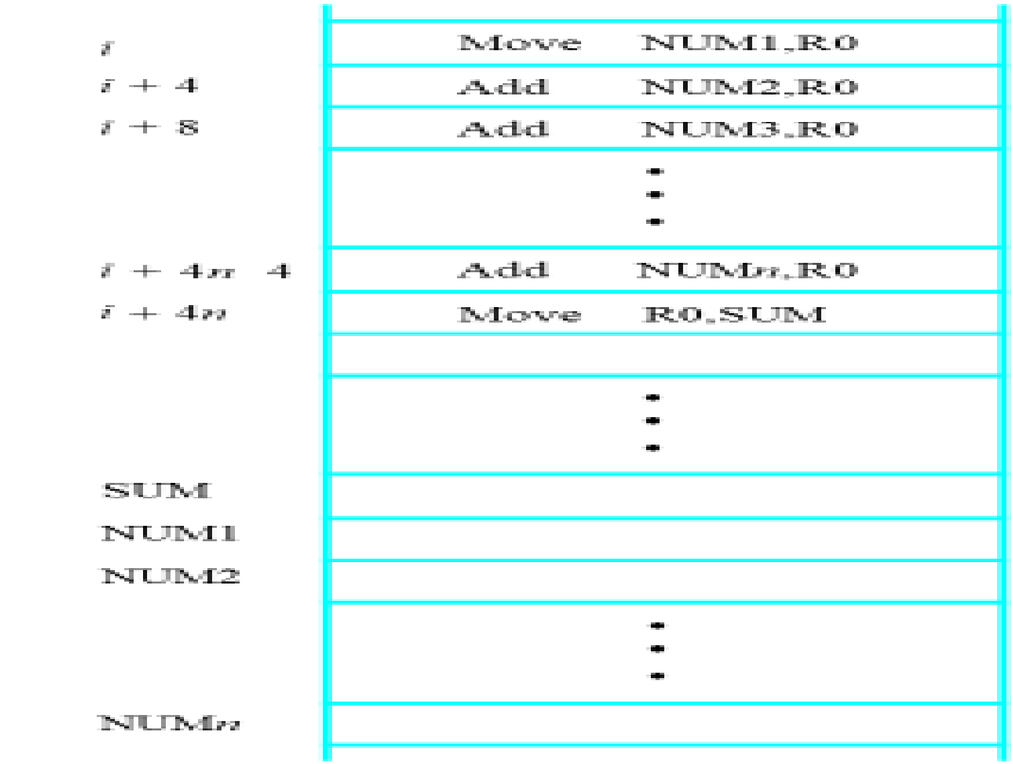


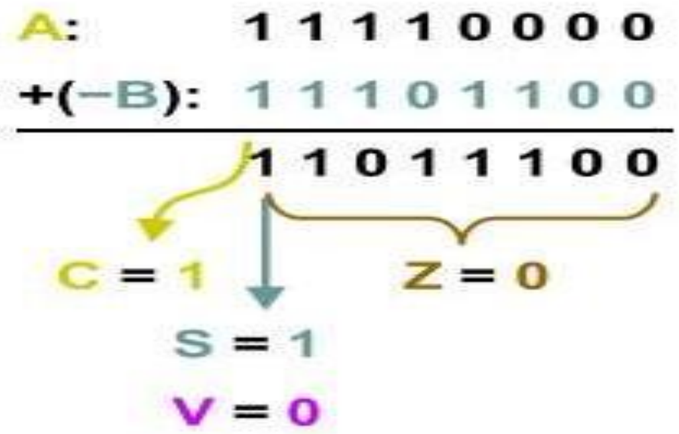
Figure 2.9. A straightline program for adding n numbers.

Condition Codes

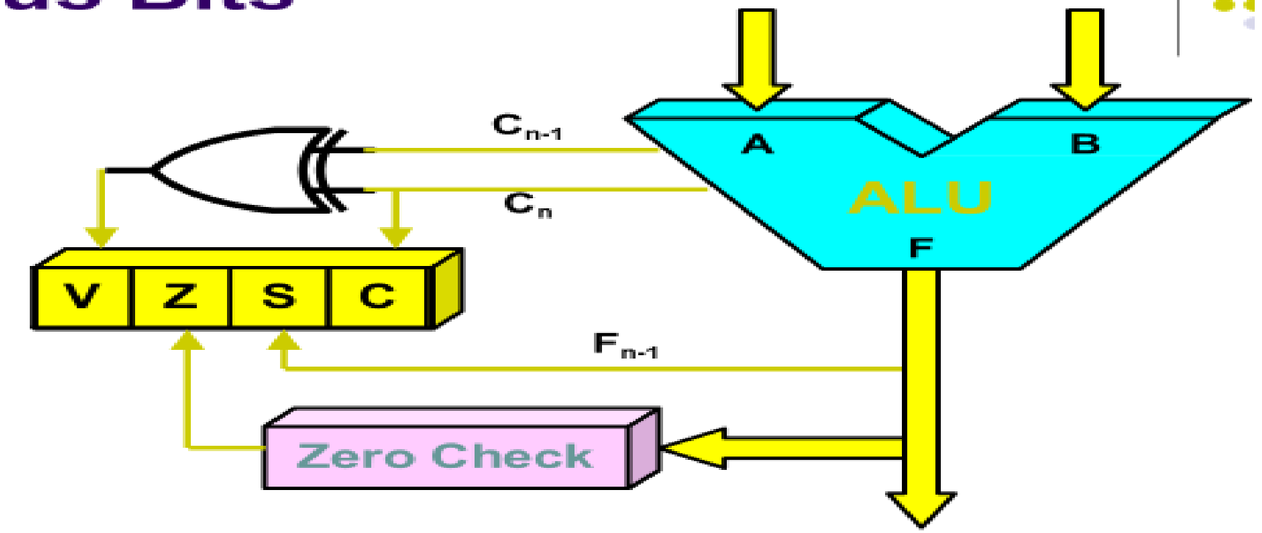
- Condition code flags
- Condition code register / status register
- N (negative)
- Z (zero)
- V (overflow)
- C (carry)
- Different instructions affect different flags

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