

Computer Organization & Architecture (Instruction Set Architecture)

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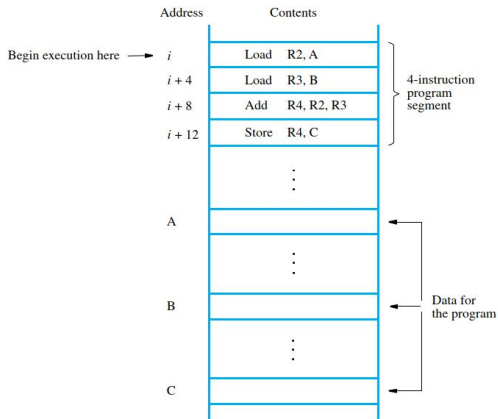
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Flow Of Control

The sequence or order in which various parts of a program are executed.

Straight-Line Sequencing

- **Straight-Line Sequencing:**
processor control circuits use the information in the PC to fetch and execute instructions, one at a time, in the order of increasing addresses.
- Two-phase procedure:
 - Instruction fetch
 - Instruction Register
 - Instruction execute

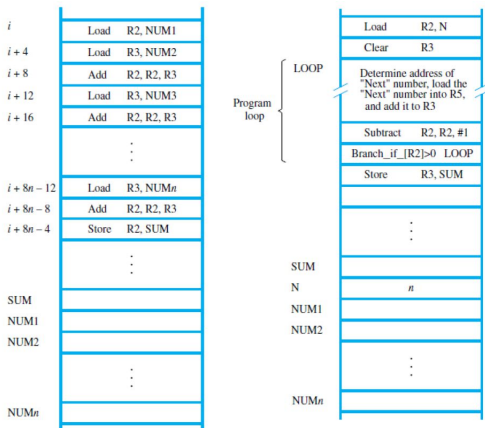


What is Branching?

Branching

Branching

- Instead of long list of **Load** and **Add**
 - It is possible to use a program loop
- Branch Instruction
- Branch Target
- Conditional Branch

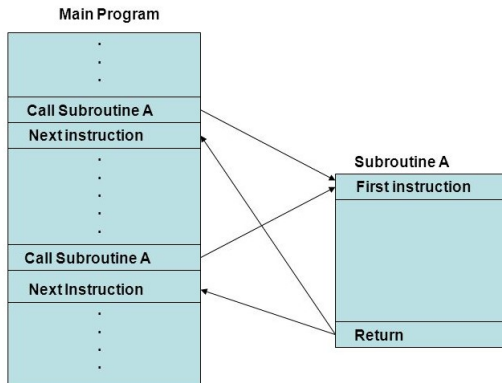


Condition Codes

- Status Bit Conditions/ Flag Bits/Condition Codes
- Specify the status of CPU after the last ALU operation
- Status Register
- Common Condition Codes:
 - Carry Flag (C)
 - Sign Flag (S/N)
 - Zero Flag (Z)
 - Overflow (V)

Subroutines

What is subroutines or co-routines?



Nested Subroutines

