# 15CSE301 - Computer Organization and Architecture

## PRE-REQUISITES FOR THE COURSE PART 1

Asha Ashok, Jisha R C

Amrita Vishwa Vidyapeetham
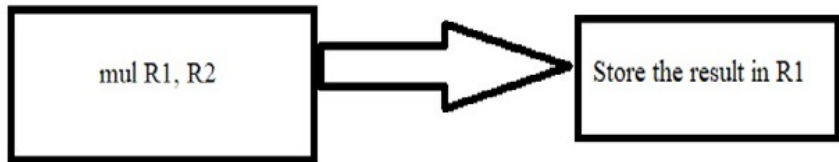
August 2020

- RISC ARCHITECTURE vs CISC ARCHITECTURE

## CISC- Complex Instruction Set Computer

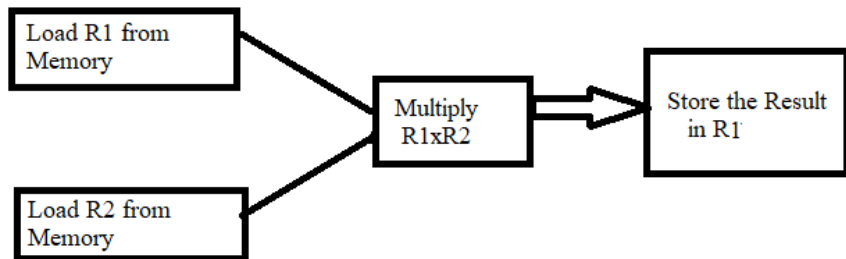- CISC Approach: Simple Coding, Hardware More Responsibility
.



| mul R1, R2 | → | Store the result in R1 |

Intel Case Scenario

# RISC-Reduced Instruction Set Computer

- RISC Approach: Complex Coding, Simple Hardware

.



[Apple Case Scenario]

## Differences between CISC vs RISC Architectures??

| CISC | RISC |
|---|---|
| More Complexity in hardware | More Complexity in software |
| CISC Instructions are variable based clock | RISC Instructions are one clock cycle |
| CISC approach based on limited registers | Since load and store based approach,more registers are there in RISC approach |
| Numerous addressing modes | Limited addressing modes |
| Many Instruction format | LImited Instruction formats,with fixed size |

Table: CISC Vs RISC