

Instructions and Forms

RISC-U

lui

beq

addi

jal

add

jalr

sub

ld

multu

sd

divu

sltu

remu

ecall

Formats

R-format

I-format

S-format

B-format

J-format

U-format

no p

special cases of addidi

Immediate Arithmetic Instructions

| | | | |
|------|------|-------|-----|
| lui | \$rd | imm | |
| addi | \$rd | \$rs1 | imm |

- **Load upper immediate** loads `imm` value shifted by 12 bits into `$rd` and **add immediate** adds `imm` to the content of `$rs1` and stores the result in `$rd`.
- Those two instructions are used to **initialize registers** (`$rs1 = $zero`) and to **load addresses** into a register in order to read values from memory.
- `lui` is used to load the upper and `addi` to load the lower bits - see `load_integer(uint64_t value)`.
- A special case of `addi` is `nop`, with `$zero = $zero + 0`.

Instructions and Formats

RISC-U

| | |
|-------|-------|
| lui | beq |
| addi | jal |
| add | jalr |
| sub | ld |
| multu | sd |
| divu | sltu |
| remu | ecall |

special case of **addi**

| |
|-----|
| nop |
|-----|

Formats

| |
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