



**Arithmetic Instructions**

- Set `$rd` to 1 if `$rs1 < $rs2`.
- This is the only instruction needed to implement `<`, `>`, `<=`, `>=`, `==` and `!=`.
- How this is done:
  - `==` is implemented using `bne $rs1, $rs2, $rd`.

$s_1 t u$

$\$rd$

$\$rs_1$

$\$rs_2$

In unsigned  
arithmetic only 0  
satisfies this  
condition.



# Memory Instructions

ld	\$rd	offset(\$rs1)
sd	\$rs2	offset(\$rs1)

- **Load** into \$rd the value that is stored at the address that is obtained by adding the immediate offset to the content of \$rs1.
- **Store** the content of \$rs2 at the address that is obtained by adding the immediate offset to the content of \$rs1.
- The addressing mode used for those instructions is called register-relative addressing.

# Arithmetic Instructions

sltu	\$rd	\$rs1	\$rs2
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- Set `$rd` to 1 if `$rs1 < $rs2`.
- This is the only instruction needed to implement `<`, `>`, `<=`, `>=`, `==` and `!=`.
- How this is done:
  - `==` is implemented using `b - a < 1`.

In unsigned arithmetic only 0 satisfies this condition.

