

The following opcodes are used for **addition**:

- ADDI — Add Signed Integer
- ADDU — Add Unsigned Integer
- ADDF — Add Floating Point

ADDI — *Add Signed Integer* {#ADDI}

???+ note "Properties"

Property	Value
Opcode	13
Type	Arithmetic
Operand Type	Signed 64-bit integer
Destination	L2 (implicit)

=== "ADDI Algorithm"

```
...
    L2 = L2 + <signed_imm>
    L2 = L2 + <reg_val>
    L2 = L2 + <const>
...
```

=== "ADDI Example"

```
``linenums="1" hl_lines="1 3 5 7"
; imm +ve
    ADDI    1
; imm -ve
    ADDI   -123
; reg val
    ADDI   val(QT)
; const
    ADDI  SOME_CONST_VAL
...
```

ADDU — *Add Unsigned Integer* {#ADDU}

Use ADDU to add an unsigned value to whatever value is stored within the L3 register. If the register L3

is not set, then initial value of L3 is assumed to be 0, and not a garbage value.

Property	Value
`Opcode`	#18
`Type`	*Arithmetic*
`Operand Type`	Unsigned 64-bit value
`Destination`	L3 (implicit)

=== "ADDU Algorithm"

```
...
    L3 = L3 + <unsigned_imm>
    L3 = L3 + <reg_val>
    L3 = L3 + <const>
...
```

=== "ADDU Example"

```
```linenums="1" hl_lines="1 3 5"
; imm +ve
 ADDU 1
; reg val
 ADDU val(QT)
; const
 ADDU SOME_CONST_VAL
...
```
```

ADDF — *Add Float value* {#ADDF}

Use ADDF to add a floating point value to whatever value is stored within the L1 register. If the register L1 is not set, then initial value of L1 is assumed to be 0, and not a garbage value.

| Property | Value |
|----------------|--------------------|
| `Opcode` | #23 |
| `Type` | *Arithmetic* |
| `Operand Type` | 64-bit float value |

| | | | | |
|--|---------------|--|---------------|--|
| | `Destination` | | L1 (implicit) | |
| | ----- | | ----- | |

=== "ADDF Algorithm"

```
...  
    L1 = L1 + <float>  
    L1 = L1 + <reg_val>  
    L1 = L1 + <const>  
...
```

=== "ADDF Example"

```
```linenums="1" hl_lines="1 3 5"  
; imm float
 ADDF 3.14
; reg val
 ADDF val(QT)
; const
 ADDF SOME_CONST_VAL
...
```

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