

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 "ADDI — *Add Signed Integer*"

Use ADDI to add an integer value to whatever value is stored within the L2 register. If the register L2 is not set, then initial value of L2 is assumed to be 0, and not a garbage value.

```
```md title="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
...

```

---