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int16

This package provides a fixed-width 16-bit signed integer type.

Range and Constants

The Int16 type represents values from -32768 to 32767 (inclusive). The package provides these boundary values as constants:

```
1
2  test "int16 range" {
3      inspect(@int16 min_value, content="-32768")
4      inspect(@int16 max_value, content="32767")
5  }
```

Arithmetic Operations

The Int16 type supports standard arithmetic operations:

```
1
2  test "int16 arithmetic" {
3      let a : Int16 = 100
4      let b : Int16 = 50
5
6      inspect(a + b, content="150")
7      inspect(a - b, content="50")
8      inspect(a * b, content="5000")
9      inspect(a / b, content="2")
10
11
12      let max = @int16 max_value
13      let min = @int16 min_value
14      inspect(max + 1, content="-32768")
15      inspect(min - 1, content="32767")
16  }
```

Bitwise Operations

Int16 supports standard bitwise operations:

```

1
2  test "int16 bitwise" {
3      let a : Int16 = 0b1100
4      let b : Int16 = 0b1010
5
6
7      inspect(a & b, content="8")
8      inspect(a | b, content="14")
9      inspect(a ^ b, content="6")
10
11
12     let x : Int16 = 8
13     inspect(x << 1, content="16")
14     inspect(x >> 1, content="4")
15 }

```

Comparison Operations

Int16 implements the Compare trait for total ordering:

```

1
2  test "int16 comparison" {
3      let a : Int16 = 100
4      let b : Int16 = 50
5      let c : Int16 = 100
6
7
8      inspect(a == b, content="false")
9      inspect(a == c, content="true")
10
11
12     inspect(a > b, content="true")
13     inspect(b < c, content="true")
14
15
16     inspect(a compare(b), content="1")
17     inspect(b compare(c), content="-1")
18     inspect(a compare(c), content="0")
19 }

```

Default Value

Int16 implements the Default trait, with 0 as its default value:

```

1
2  test "int16 default" {
3      let x = Int16::default()
4      inspect(x, content="0")
5  }

```

Type Coercion and Conversion

Integer literals can be coerced to Int16 when the type is explicitly specified:

```
1
2 test "int16 coercion" {
3   let a : Int16 = 42
4   let b : Int16 = 0xFF
5   let c : Int16 = 0b1111
6   inspect(a, content="42")
7   inspect(b, content="255")
8   inspect(c, content="15")
9 }
```