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Integer (Int): trait
  % The usual (unbounded) integers operators
  includes
    DecimalLiterals (Int for N),
    TotalOrder (Int)
  introduces
    0, 1: → Int
    succ, pred, -__, abs: Int → Int
    __+__, __-__, __*__: Int, Int → Int
    div, mod, min, max: Int, Int → Int
  asserts
    Int generated by 0, succ, pred
    ∀ x, y: Int
      succ(pred(x)) == x;
      pred(succ(x)) == x;
      -0 == 0;
      -succ(x) == pred(-x);
      -pred(x) == succ(-x);
      abs(x) == max(-x, x);
      x + 0 == x;
      x + succ(y) == succ(x + y);
      x + pred(y) == pred(x + y);
      x - y == x + (-y);
      x * 0 == 0;
      x*succ(y) == (x*y) + x;
      x*pred(y) == (x*y) - x;
      y > 0 ⇒ mod(x, y) + (div(x, y) * y) = x;
      y > 0 ⇒ mod(x, y) ≥ 0;
      y > 0 ⇒ mod(x, y) < y;
      min(x, y) == if x ≤ y then x else y;
      max(x, y) == if x ≤ y then y else x;
      x < succ(x)
  implies
    AC (+, Int),
    AC (*, Int),
    AC (min, Int),
    AC (max, Int),
    RingWithUnit (Int for T)
    Int generated by 1, +, -__:Int→Int
    ∀ x, y: Int
      x < y == succ(x) < succ(y);
      x ≤ y == x < succ(y)
    converts
      1, -__:Int→Int, __-__:Int,Int→Int,
      abs, +, *, div, mod, min, max, ≤, ≥, <, >
```