```
Set (E, C): trait
  % Common set operators
  includes
    SetBasics,
    Integer,
    DerivedOrders (C, ⊆ for ≤, ⊇ for ≥,
                   ⊂ for <, ⊃ for >)
  introduces
    __∉ __: E, C → Bool
    delete: E, C → C
    {__}: E → C
    __ ∪ __, __ ∩ __, __-__: C, C → C
    size: C → Int
  asserts
    ∀ e, e1, e2: E, s, s1, s2: C
      e ∉ s == ¬(e ∈ s);
      { e } == insert(e, { });
      e1 ∈ delete(e2, s) == e1 ≠ e2 ∧ e1 ∈ s;
      e ∈ (s1 ∪ s2) == e ∈ s1 ∨ e ∈ s2;
      e ∈ (s1 ∩ s2) == e ∈ s1 ∧ e ∈ s2;
      e ∈ (s1 - s2)  == e ∈ s1 ∧ e ∉ s2;
      size({ }) == 0;
      size(insert(e, s)) ==
        if e ∉ s then size(s) + 1 else size(s);
      s1 ⊆ s2 == s1 - s2 = { }
  implies
    AbelianMonoid (∪ for ∘, { } for unit, C for T),
    AC (∩, C),
    JoinOp (∪, { } for empty),
    MemberOp ({ } for empty),
    PartialOrder (C, ⊆ for ≤, ⊇ for ≥,
                  ⊂ for <, ⊃ for >)
    C generated by { }, {__}, ∪
    ∀ e: E, s, s1, s2: C
      s1 ⊆ s2 ⇒ (e ∈ s1 ⇒ e ∈ s2);
      size(s) ≥ 0
    converts
      ∈, ∉, {__}, delete, size, ∪, ∩, -:C,C→C,
      ⊆, ⊇, ⊂, ⊃
```