A semi-ordering data type is based on a semi-ordering relation P:
for any a,b,c ∈ A,

P(a,b)&P(b,c) ⇒ ∀d ∈ A such that P(a,d)vP(d,c).

This relation P can be illustrated with intervals. Let a function U be a coding function each element of A as a real number, U: A → Re. Then P(a,b) is defined as P(a,b) ⇔ U(a) + 1 < U(b).