

$\text{sign}(y-y')$

D	T_x	C
T_y	T_{xy}	T_y
C	T_x	D

$\text{sign}(x-x')$

Form independent pairs $(x, y), (x', y')$

$x^* := \text{sign}(x - x')$

$y^* := \text{sign}(y - y')$

$\text{cov}(x^*, y^*) = \text{Kendall's tau a}$

$\text{regress}(y^* \sim x^*) = \text{cov}(x^*, y^*) / \text{cov}(x^*, x^*)$
= Somers' D