Theorem The $U(a, b)$ distribution is a special case of the Kolmogorov–Smirnov(n) distribution when $n = 1$, $a = 1/2$, and $b = 1$.

Proof Let the random variable $X \sim$ Kolmogorov–Smirnov(1). The cumulative distribution function of X is

$$F(x) = 2x - 1 \qquad 1/2 < x < 1.$$

This is the same as

$$F(x) = \frac{x - 1/2}{1/2} \qquad 1/2 < x < 1,$$

which is the cumulative distribution function of a $U(1/2, 1)$ random variable.

APPL verification: The APPL statements

```
X := KSRV(1);
Y := UniformRV(1 / 2, 1);
CDF(X);
CDF(Y);
```

yield identical cumulative distribution functions.