$d(c) = r_E(c) - r_N(c)$, between $[0 - 1]$

flip $c \to c-1$.

A_{xy}: $\{c \in A : r_E(c) = x \text{ and } r_N(c) = y\}$

ε-uniform if:

$$\sum_{c \in A_{xy}} c(p) = \sum_{c \in A_{xy}} c(q)$$

$\{x\}$ and $\{y\}$:

$$\sum c(p) = \sum c(q), \text{ for all structures.}$$

$|x \cap E| = i$

$|y \cap N| = j$

$$\frac{n!}{(n-k)!k!} = \frac{n(n-1)(n-2)\dots 1}{(n-k)(n-k-1)(n-k-2)\dots (k)(k-1)(\dots)}$$

Then,

$r_E(c) = i/s$, Let $x = r_E(c)$

$r_N(c) = j/t$, Let $y = r_N(c)$

$$\sum_{c \in Q_{x,y}} c(q) = \binom{s-1}{i-1}\binom{t}{j} = \frac{i}{s}\frac{s}{i}\binom{s-1}{i-1}\binom{t}{j} = \frac{i}{s}\binom{s}{i}\binom{t}{j}, \quad \binom{n}{k} = \frac{n}{k}\binom{n-1}{k-1}.$$

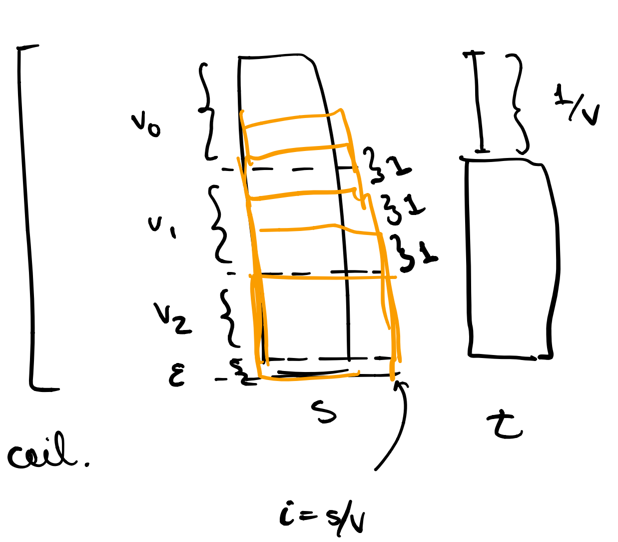
$d(c) > 1/v$

$> r_E C(c) - r_N(c)$, somewhere between $[0, 1]$

If p, q are same X^p, X^q have same pr. density functions.

$[r]$: greatest int $< r$

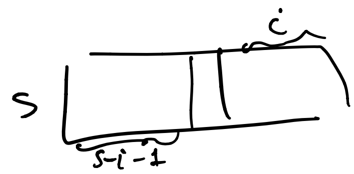
$\langle r \rangle$: smallest int $> r$



# of points where X^q takes 0.

q is any ε-structure

$$\underbrace{\sum_{\langle i = s/v \rangle}^{s}}_{\text{to preserve } d(c) > 1/v} \; \sum_{j=0}^{[t(i/s - 1/v)]}$$



$$i = \frac{s + v(k)}{v}$$

$$i/s = \frac{s + v(k)}{vs}$$

$$= \frac{1}{v} + \frac{k}{s}, \{k \in \mathbb{N}\}$$

$\{v \in [0,1]\}$

$$\frac{(s-1)!}{(s-1-i)!\, i!} = \frac{s}{(s-i)} \frac{s-i}{s} \binom{s-1}{i}$$

$$= \frac{s-i}{s} \binom{s}{i}$$

$$[t(i/s - 1/v)] = [(1/v + k/s - 1/v)t]$$

$$= \left[\frac{kt}{s}\right]$$

$$= [(k)\, t/s] \quad \{s/v + 1 < k \le s\} \longrightarrow \left(\frac{1}{v} + \frac{1}{s}\right)t \le \left[(k)\frac{t}{s}\right] < [t]$$