

$\begin{matrix} T & H \\ T & T & T & H \\ T & T & T & T & T & H \\ \vdots \end{matrix}$

H

TTT

$TTTTT$

$\vdots$

A'

$$\begin{pmatrix} p_n \\ p_{n-1} \end{pmatrix} = \begin{bmatrix} p & p(1-p) \\ 1 & 0 \end{bmatrix} \begin{bmatrix} p_{n-1} \\ p_{n-2} \end{bmatrix}$$

$$= \begin{bmatrix} p & p(1-p) \\ 1 & 0 \end{bmatrix}^2 \begin{bmatrix} p_{n-2} \\ p_{n-3} \end{bmatrix}$$

$$\begin{pmatrix} p_n \\ p_{n-1} \end{pmatrix} = \begin{bmatrix} p & p(1-p) \\ 1 & 0 \end{bmatrix}^{n-2} \begin{bmatrix} p_2 \\ p_1 \end{bmatrix}$$

$$U \Lambda V^T$$

B A

$$2(n-1)(n-2)!$$

A B

A

B

X

X

X

X

X

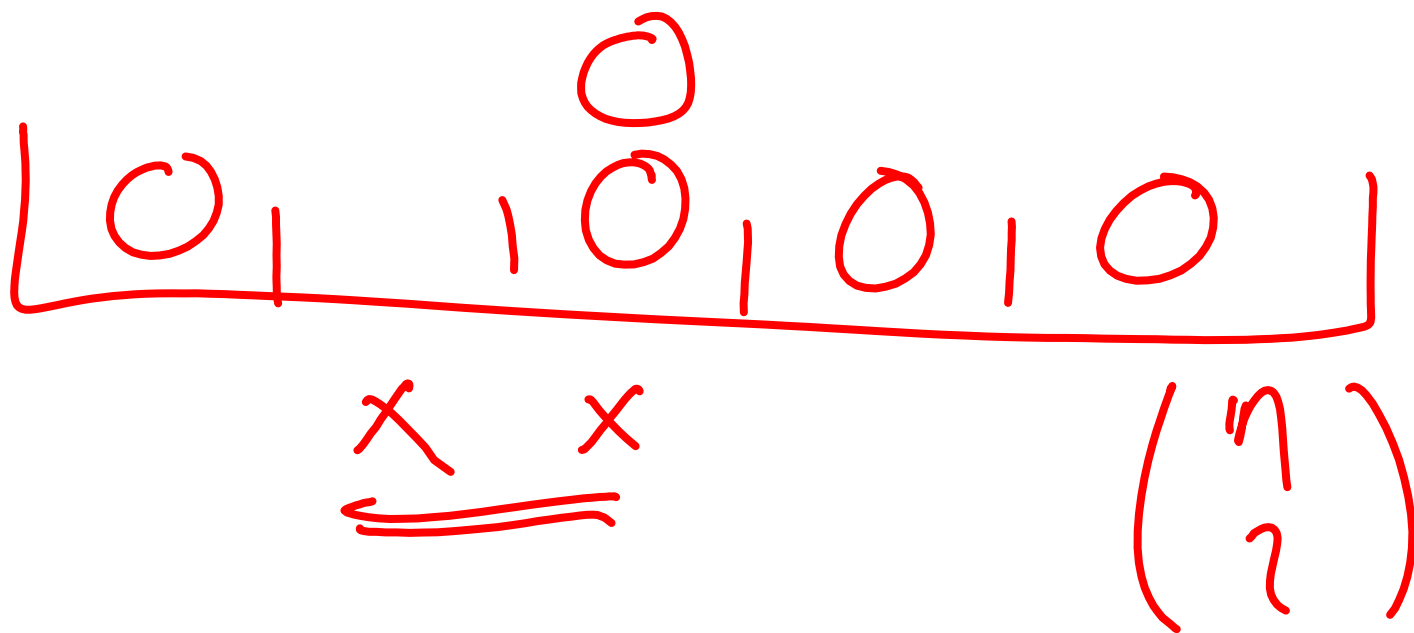
X

X

X

A B

1 - contains zero
 1 contains two
 $n-2$ contain one.



$$\underline{\sum_y y p(y)} \leq \underline{\sum_y |y| p(y)} < \infty$$

eg

$$p(y) \propto \frac{1}{y^2}$$

$$p(y) = \frac{c}{y^2} \quad y = 1, 2, 3, \dots$$

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$$\sum_y (y - \mu)^2 p(y) = \infty$$

$$\sum_y (a(y - \mu))^2 p(y)$$

$$= a^2 \sum_y (y - \mu)^2 p(y)$$

