1

$n = 100; p = 0.8$

$k = 85$

Решение (биномиальное распределение):

$n \in \mathbb{Z}\ n \geq 0\ \ \Omega = \{(x_1, x_2, \dots, x_n) \mid \forall i = \overline{1,n}\ \ x_i \in \{1, 0\}\}$

$p \in \mathbb{R}\ \ 0 \leq p \leq 1\ \ P(x_i = 1) = p$

$\xi_n = \sum_{i=1}^{n} x_i$

$q = 1 - p$

$k \in \mathbb{Z}\ \ 0 \leq k \leq n\ \ P(\xi_n = k) = f(k; n, p) = C_n^k p^k q^{n-k}$

$q = 1 - p = 1 - 0.8 = 0.2$

$n - k = 100 - 85 = 15$

$P(\xi_n = 85) = f(85; 100, 0.8) = C_{100}^{85}\ 0.8^{85}\ 0.2^{15}$

Ответ:

$P(\xi_n = k) \sim Bin(n, p)\ \ P(\xi_n = 85) = C_{100}^{85}\ 0.8^{85}\ 0.2^{15}$