$C :$
$\Omega \to$
$\{0,1\}^* \cup$
$\{\perp\}$
Ω
$C :$
$\Omega \to$
$\{0,1\}^* \cup$
$\{\perp\}$
$x \in$
Ω
$s \geq$
0

$$\Pr\left[\, |C(x)| \leq \log|\Omega| - s \,\right] \leq 2^{-s}.$$

$|\perp| =$
∞
$C(x) \leq$
$\log|\Omega| -$
s
$C(x)$
$k =$
$\log|\Omega| -$
s
C
$|\Omega|$
2^k
k
$C(x)$
k

$$\frac{2^k}{|\Omega|} = \frac{2^{\log|\Omega| - s}}{|\Omega|} = \frac{1}{2^s}.$$

per-
mu-
ta-
tion
σ
n

$$\sigma = (\sigma(1), \ldots, \sigma(n)).$$

n
$\{1, \ldots, n\}$
$n!$
(max)
record
σ
n
$\sigma(i)$
$1 \leq$
$i \leq$
n
$\sigma(i) =$
$\max\{\sigma(1), \ldots, \sigma(i-$
$1)\}$
$\sigma(i)$
$1/i$

$$H_n = \sum_{i=1}^{n} \frac{1}{i} = \ln n + O(1),$$

n^{th}
et
al. **?**
σ
$\sigma(1)$
σ
$\sigma(1)$
$\sigma(1)$
σ
k
$\sigma(1)$
S

$$S(n) = nn - 1kk! \cdot S(n-k-1),$$

$S(0) =$
1
$S(1) =$
1
$S(n) =$
$n!$
σ
n
$c \log n$

$$2^{-c(1-H(1/c))\log n + O(\log\log n)},$$

$c >$
2
σ
$n!$
σ
$t \geq$
$c \log n$
$r_1 <$
$r_2 <$
$\ldots <$
r_t