

rst
receptionist
terms, t_1 and t_2 .
to the

4.

$n = \text{no of servers} = 2$

$m = \text{top results to be copyed} = 3$

$k = \text{no of result. by each server} = 2$

$m \leq k$

$m > k, n > 1$

t_2 to $p(n, m, k) = \begin{cases} 1 & m \leq k \\ 0 & m > k, n = 1 \\ \sum_{l=0}^k b(n, m, l) \times p(n-1, m-l, k), & m > k, n > 1 \end{cases}$
 prob of returning m docs with k being returned by each of n machines

$$p(2, 3, 2) = b(2, 3, 0) \times p(1, 3, 2) + b(2, 3, 1) \times p(1, 2, 2) + b(2, 3, 2) \times p(1, 1, 2)$$

$$b(2, 3, 0) = {}^2C_0 \times \left(\frac{1}{2}\right)^0 \times \left(1 - \frac{1}{2}\right)^3 = \frac{1}{8}$$

$$b(2, 3, 1) = {}^2C_1 \left(\frac{1}{2}\right)^1 \times \left(1 - \frac{1}{2}\right)^2 = \frac{3}{8}$$

$$b(2, 3, 2) = {}^2C_2 \left(\frac{1}{2}\right)^2 \times \left(1 - \frac{1}{2}\right) = \frac{3}{8}$$

$$p(2, 3, 2) = \frac{1}{8} \times 0 + \frac{3}{8} \times 1 + \frac{3}{8} \times 1 = \frac{6}{8} = \frac{3}{4}$$