

PREIMO 2006

C-Math.

Titolo nota

25/05/2006

h_i

$$S_i = \sum_{j=1}^i h_j$$

$$S_i \neq 13$$

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$$1 - 26 \rightarrow \text{max } 13$$

$$27 - 52 \rightarrow 13$$

$$58 - 60 \rightarrow 8$$

$$\underline{34}$$

$$8 \cdot 3 + 5 \cdot 2 = 34$$

$$\left\{ \begin{array}{l} 1 - 14 - 27 - 40 - 53 \rightarrow \text{Max } 3 \\ 2 - 15 - 28 - 41 - 54 \rightarrow 3 \end{array} \right.$$

$$\left\{ \begin{array}{l} 8 - - - - \rightarrow \text{Max } 3 \\ - - - 35 - 48 \rightarrow \text{Max } 2 \end{array} \right.$$

$$\left\{ \begin{array}{l} 9 - 22 - 35 - 48 \rightarrow \text{Max } 2 \\ 13 - - - - \rightarrow \text{Max } 2 \end{array} \right.$$

$$N = 4K$$

Basta il 4×4

$$N = 4K + 2$$

B	B	N	N
B	N	N	B

$2K + 1$	B
$2K + 1$	N

$$N = 2K + 1$$

Invariante \rightarrow Parità del numero
di bianche o nere
in ogni riga e colonna

$$x_k = \frac{1}{M+1} \underbrace{\sum (\min A + \max A)}$$

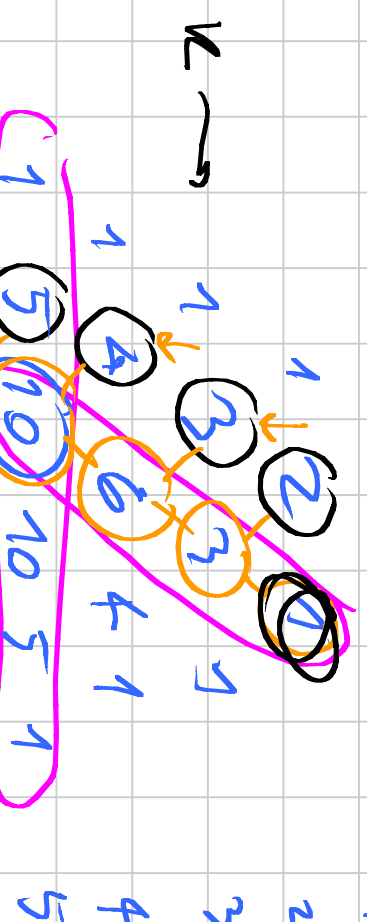
$$\sum \min A = 1 \cdot \binom{M-1}{k-1} + 2 \binom{M-2}{k-1} + \dots + (M-k+1) \binom{k-1}{k-1}$$

↑
+

$$\sum \max A = M \binom{M-1}{k-1} + (M-1) \binom{M-2}{k-1} + \dots + k \binom{k-1}{k-1}$$

$$\sum \min A + \max A = \binom{M+1}{k} \sum_{i=k}^M \binom{i-1}{k-1}$$

$$x_k = \sum \binom{i-1}{k-1} = \binom{M}{k} \sum_{j=1}^{M-1} x_k = \sum_{i=1}^{M-1} \binom{M}{i} = 2^M - 2^0 = 2^M - 1$$



$$\sum_{i=k}^n$$

$$\binom{i-1}{a} = \binom{n+1}{a+1} - \binom{k-1}{a+1}$$

$$\binom{5}{2} = 10$$

$$\binom{5}{k}$$

$A \subset M$

$\#A = k$

$M = \{1, 2, \dots, n\}$

$A_1 = \{x_1, x_2, x_3, \dots, x_k\}$

$A = \{n+1-x_1, n+1-x_2, \dots, n+1-x_k\}$

$$a_k = \frac{1}{n+1}$$

$\sum_{\substack{A \subset M \\ \#A=k}}$

$\min A + \max A'$

$$= \frac{1}{n+1}$$

$\sum_{\substack{A \subset M \\ \#A=k}}$

$\min A + \max A' =$

$$= \frac{1}{n+1}$$

$\sum_{\substack{A \subset M \\ \#A=k}}$

$$= \binom{n}{k}$$

I Alberto gioca un primo

2006,

1999 } 1 volta
1997 }

II Alberto gioca n (non primo)