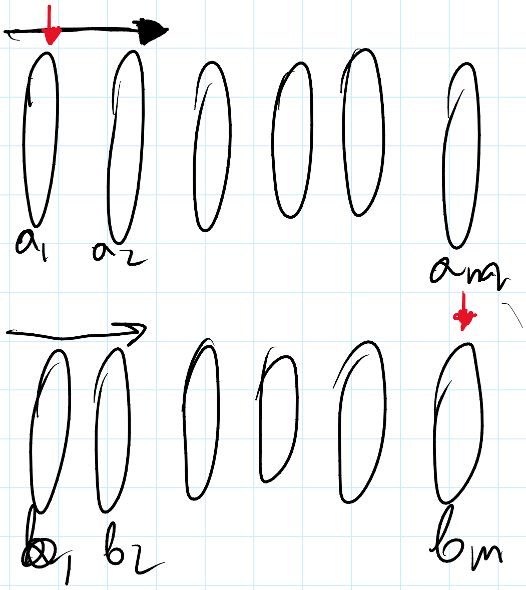
2 — TABLE

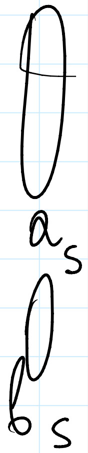
$s-a_1, s-a_2, s-a_3, \dots, s-a_m$

лекс. убыв. посл-ть

$a_i + b_j = s$



SUBSET SUM



$S \subseteq \{1, \dots, \frac{n}{2}\}$

$S \subseteq \{\frac{n}{2}+1, \dots, n\}$

XSAT

s_i - x_i входит пол-но k_i - x_i входит отрицательно

$\sum s_i \cdot x_i + k_i \cdot (1-x_i) =$ кол-во клозов

$$\overline{x_{k+2}} \wedge (x_{k+2} \vee \overline{x_{k+1}}) (x_{k+1} \vee x_1 \vee x_2 \vee x_3 \vee x_4 \vee \dots \vee x_k) \wedge \overline{x_1} \wedge \overline{x_2} \wedge \overline{x_3} \wedge \dots \wedge \overline{x_k}$$

$s_i = k_i = 1$

$s_{k+2} = 1$

$k_{k+2} = 0$

m

m

c_i - кол. вып. кл.

m - число клозов

$poly(n, m)$

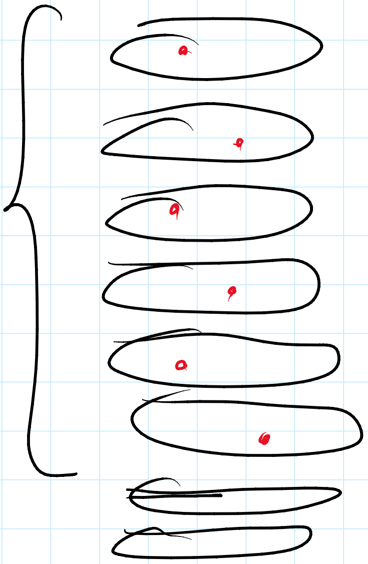
a_S

$S - \{0,1\}^{n/2}$ - означ. первых $\frac{n}{2}$ перем.

b_S

$S - \{0,1\}^{n/2}$ - означ. вторых $\frac{n}{2}$ перем.

$m \times (k-2)$



} 2-TABLE

$m^{k-1} \cdot ml + ml\log m$

$m^{k-2} \cdot (\underbrace{ml \log m + ml})$

$m^{k-1} \cdot \underbrace{l \cdot \log m}$

$S' = S - \sum_{k-2}$

3-SUM

$3x$ $\overset{a_1}{0}$ $\overset{a_2}{0}$ $\overset{a_3}{0}$ ... $\overset{a_n}{0}$

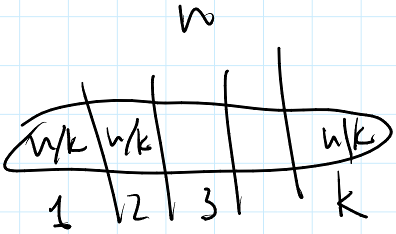
$S = 0$

$n^2 + n\log n$

$\underbrace{2^{\frac{n}{k}} \le M(n)}$

$\frac{n}{k} \le \log M(n)$

$$k \geq \left\lceil \frac{n}{\log M(n)} \right\rceil$$

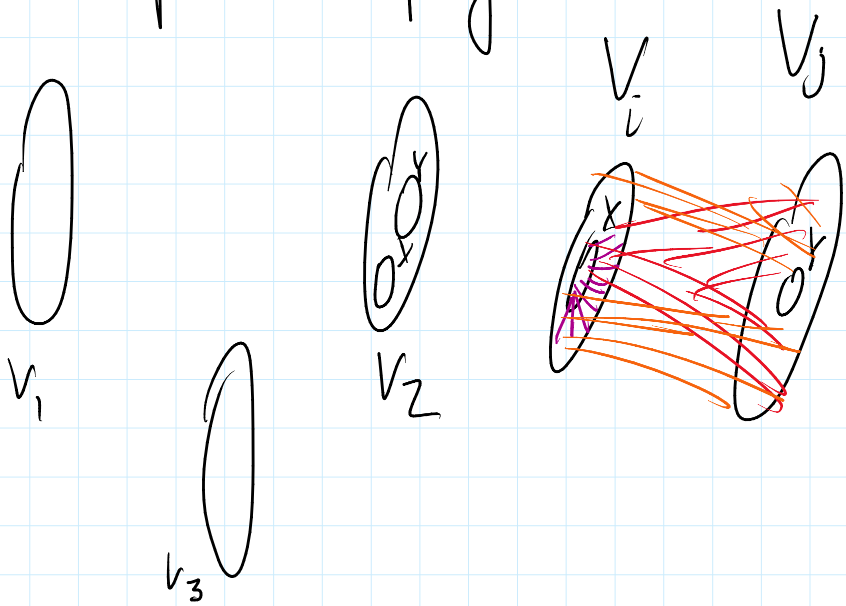


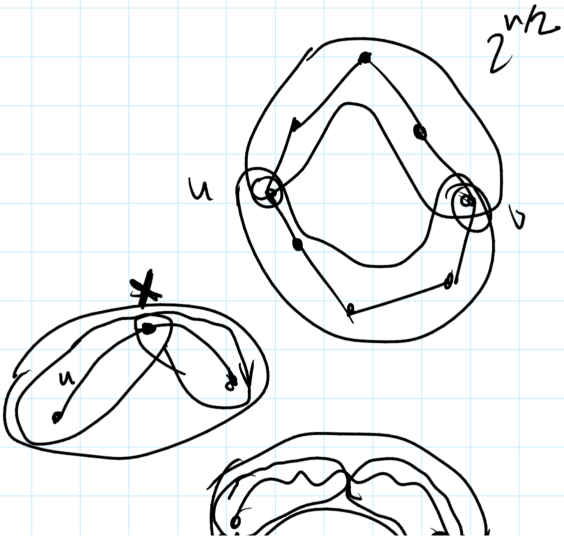
$\ell = 1$ $\quad M = 2^{n/k}$

MAX CUT

Алг-м Штрассена $n^{\log_2 7}$

Копперсм.-Винограда $n^{2.373}$



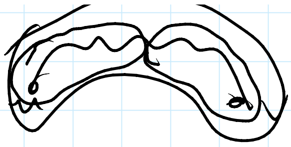


$\binom{n}{n/2}$ – вариантов того, какая 1-я половина

$\binom{n}{n/2} \cdot 2^{n/2}$

||

$\Theta(2^n \cdot 2^{n/2})$ $\quad 2^{3n/2}$ $\quad 2^{n/2}$



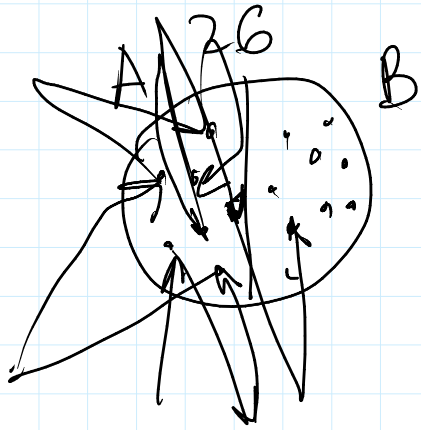
$\Theta(2^n \cdot 2^{n/2})$ $\quad 2^{3n/2} \quad 2^{n/2}$

$$T(n) = 2^n \cdot T(n/2) \cdot n$$

$$4^n \cdot n^{\log n} \leftarrow \left(2^n \cdot 2^{n/2} \cdot 2^{n/4} \cdot 2^{n/8} \cdots 2^1\right) \cdot n^{\log n/2}$$

$$2^{n(2-1/2^i)} \cdot 2^{n/2^i} = 4^n$$

Time × Space = 4



$$\underbrace{2^{13}} + \underbrace{2^{13}} - 1$$

$$\left(\underbrace{2^{14}-1}_{S \cap C_i}\right)^{n/26} \leftarrow$$

(26) $\quad k=13 \quad$ Time $(2^{14}-1)^{n/26} \cdot \binom{26}{13}^{n/26} \quad$ 2.704

3.928 $\quad$ Space $(2^{14}-1)^{n/26} \quad$ 1.46

(4) $\quad (1,4) \quad h \le \frac{n}{2}$

$$\binom{n}{h} \cdot 1.3803^h + 1.3803^{n-h}$$

$$\binom{n}{h} \cdot 1.3803^h = 1.3803^{n-h}$$

$$\binom{n}{h} \cdot 1.3803^{h} = 1.3803^{n-h}$$

$$x = \frac{h}{n}$$

$$2^{n \cdot H\left(\frac{h}{n}\right)} \cdot 1.3803^{h} = 1.3803^{n-h}$$