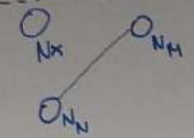


$$\ell = -2S(N_M, N_N) + [S(N_N, N_X) + S(N_M, N_X)]$$

$C_1 : S(N_M, N_N) > S(N_N, N_X)$

$C_2 : S(N_M, N_N) > S(N_M, N_X)$

$f_1 : S(N_M, N_N) - S(N_N, N_X) = \mu_1$

$f_2 : S(N_M, N_N) - S(N_M, N_X) = \mu_2$

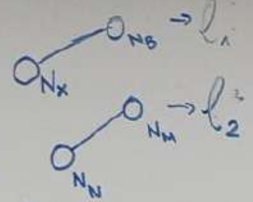
$$\arg\max_{\mu} \sum \mu$$

$$f = 2S(N_M, N_N) - \left[\sum_{N_M, N_n}^{n} S(N_X, n)\right]$$

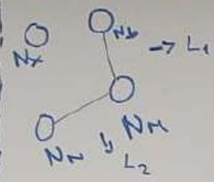
max f → min $-f$ → min ℓ

$$\ell = -2S(N_M, N_N) + \left[\sum + S(N_X, n)\right]$$

$$\ell = -2S(N_M, N_N) + [S(N_X, N_M) + S(N_X, N_N)]$$



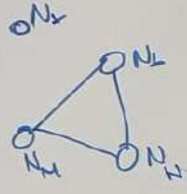
$$\mathbb{L} = \ell_1 + \ell_2$$



$$\mathbb{L} = \ell_1 + \ell_2$$

$$\mathbb{L} = \sum_{\ell \in G} L_\ell$$

pairs (min partition)



ℓ ??

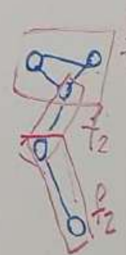
for many non-conected

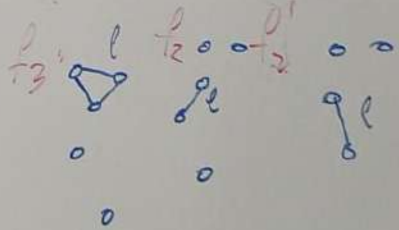
$$f = 2S(N_N, N_M) - \left[\sum_{N_X \in G \setminus N_{N,M}}^{X} \sum_{N_N, N_M}^{n} S(x, n)\right]$$

Does it make sense?

what if |ball| > 2 ???

$$f = \left[\frac{2}{|C|} \sum_{j \in C}^{j} \sum_{i \neq j}^{i} S(i, j)\right] - \left[\sum_{N_X \in G \setminus N_{N,M}}^{X} \sum_{N_{M,N}}^{n} S(x, n)\right]$$





$$\mathbb{L}_G = \sum_{\ell \in G}^{\ell} \ell$$