(B-15); = 0 => DEGENERACY

If y, & didn't have the same "form" of x: y = [y, ... y , o ... x ... o] 7 = [8, ... 740 0] 1 po 10 => lun po mible x = [x, xuo. /k. 0] mia y & P, A, Y, + ... + A & Y & = b (some for z) $(#) - (##) = A_1(Y_1 - Y_1) + ... + A_k(Y_k - Z_k) = b - b = 0$ ai,..., du ore >0, but mira y+2, di cont be of ti... 30; \$0 =D (#)-(##) \$0 Ar, ..., Ar must be limorly dependent, which is a controddiction. Our onumption woust be wrong

Y must be a verten

· "X is a writer -> X is a 1/s"

$$X = \left[\begin{array}{ccc} X_1 & \dots & X_k & 0 \dots & 0 \end{array} \right]^T \in \mathbb{R}^n \qquad k \in [q_n]$$

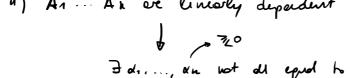
$$x \in P = D A_1 X_1 + \dots + A_n X_n = b (*)$$

Two possible coses:

since k council be longer than m, x_{m1},..., x_m can be of

And nince $X = \left(\frac{B^2 b}{a}\right)$ is solvined $\Rightarrow x$ is a left

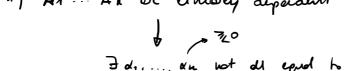
Giner [30 (dose to 0)



- - - Aidi + Aidi + ... + Andu = [] (##)

Since $y = x + \begin{bmatrix} \epsilon x_1 \\ \epsilon x_2 \\ 0 \end{bmatrix}$ $z = x - \begin{bmatrix} \epsilon x_1 \\ \epsilon x_2 \\ 0 \end{bmatrix}$ $= \sum_{i=1}^{\infty} x_i + \sum_{i=1}^{\infty} x_i + \sum_{i=1}^{\infty} x_i$ where $x_i = x_i$ is not a unitary supposible.

Giner [30 (dose to 0)



- Aidi + Aidi + ... + Andu = [] (##)

Since $y = x + \begin{bmatrix} \epsilon x_1 \\ \epsilon x_2 \\ 0 \end{bmatrix}$ $z = x - \begin{bmatrix} \epsilon x_1 \\ \epsilon x_2 \\ 0 \end{bmatrix}$ $= \sum_{i=1}^{\infty} x_i + \sum_{i=1}^{\infty} x_i + \sum_{i=1}^{\infty} x_i$ where $x_i = x_i$ is not a unitary supposible.

 $\# DFS = \binom{n}{m} = \frac{n!}{m!(n-m)!}$

GEORGE DANTZIG:

- 1) classe a roudour witers
- 2) duck the optimality of the weter

Is locally eptimal -s oft. solution
to not locally optimal -s trevel to nearby weters (change the ban's)

Optimality test

Suppose
$$XP = 0$$
 (we're on a writex)
Ly $C^TX = C_0^T \overline{B}^1 b = C_0$

The gotindity fast is SUFFICIENT to stop

$$\overline{C_{P}}^{T} = C_{P}^{T} - C_{0}^{T} \overline{B}^{T} F$$

$$\overline{C_{P}}^{T} = C_{P}^{T} - C_{0}^{T} \overline{B}^{T} F$$

$$\overline{C_{P}}^{T} = C_{P}^{T} - C_{0}^{T} \overline{B}^{T} A$$

$$\overline{C_{P}}^{T} = C_{P}^{T} - C_{0}^{T} \overline{B}^{T} F$$

$$\overline{C_{P}}^{T} =$$