Бутун сонли дастурлашда Гомори усули

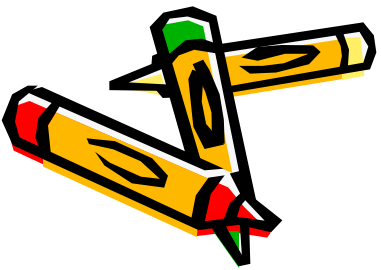
1) Гомори усулининг геометрик талқини ҳақида.

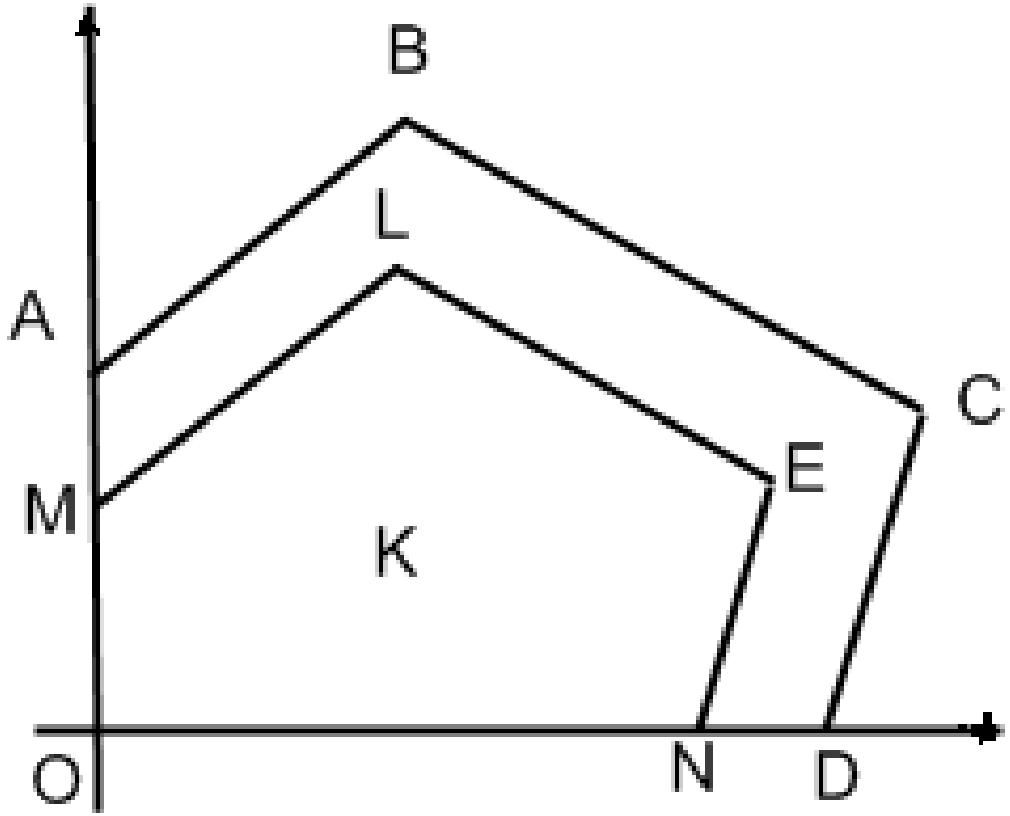
2) Гомори усулининг алгоритми.

$$\sum_{j=1}^{n} a_{ij} x_j = b_i \quad , \quad (i = \overline{1,m})$$

$$x_j \geq 0 \quad , \quad \textit{бутун} \, (j = \overline{1,n})$$

$$Y = \sum_{j=1}^{m} c_j x_j \rightarrow \min$$



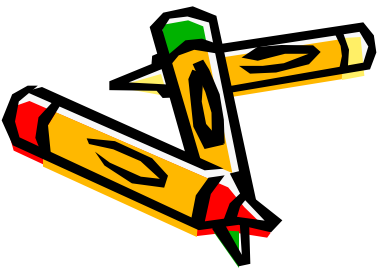

B
L
A
C
E
M
K
O
N
D

$$\overline{X} = \begin{vmatrix} x_1 & 1 & 0 & \dots & 0 & \dots & 0 & x_{1,m+1} & \dots & x_{1j} & \dots & x_{1n} \\ x_2 & 0 & 1 & \dots & 0 & \dots & 0 & x_{2,m+1} & \dots & x_{2j} & \dots & x_{2n} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ x_i & 0 & 0 & \dots & 1 & \dots & 0 & x_{i,m+1} & \dots & x_{ij} & \dots & x_{in} \\ \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots & \dots \\ x_m & 0 & 0 & \dots & 0 & \dots & 1 & x_{m,m+1} & \dots & x_{mj} & \dots & x_{mn} \end{vmatrix}$$

$$x_i \qquad [x_i] \qquad q_i$$

$$x_{ij} \qquad [x_{ij}] \qquad q_{ij}$$

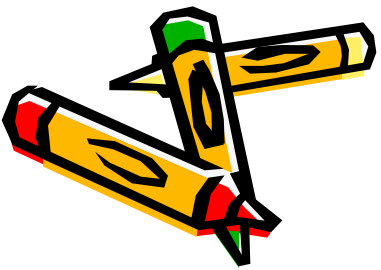
$$\begin{cases} q_i = x_i - [x_i] \\ q_{ij} = x_{ij} - [x_{ij}] \end{cases}$$



$$q_i \neq 0$$

$$\max_{q_i \neq 0} q_i = q_k$$

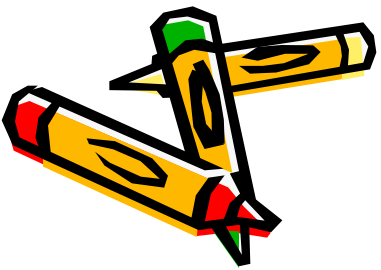
$$q_{k1}x_1 + q_{k2}x_2 + \ldots + q_k x_m \geq q_k$$



$$-q_{k1}x_1 - q_{k2}x_2 - \ldots - q_{kn}x_n + x_{n+1} = -q_k$$

m+2 xn+1 Pn+1

$$\min_{q_{kj}<0}\left(\frac{\Delta_j}{q_{kj}}\right) = \frac{\Delta_l}{q_{kl}}$$



Агар

$$\max_{q_i \neq 0} q_i = q_k$$

шартни қаноатлантирувчи k-қатордаги барча x_{ij} лар бутун сонли бўлса,

у ҳолда берилган масала бутун сонли ечимга эга бўлмайди.