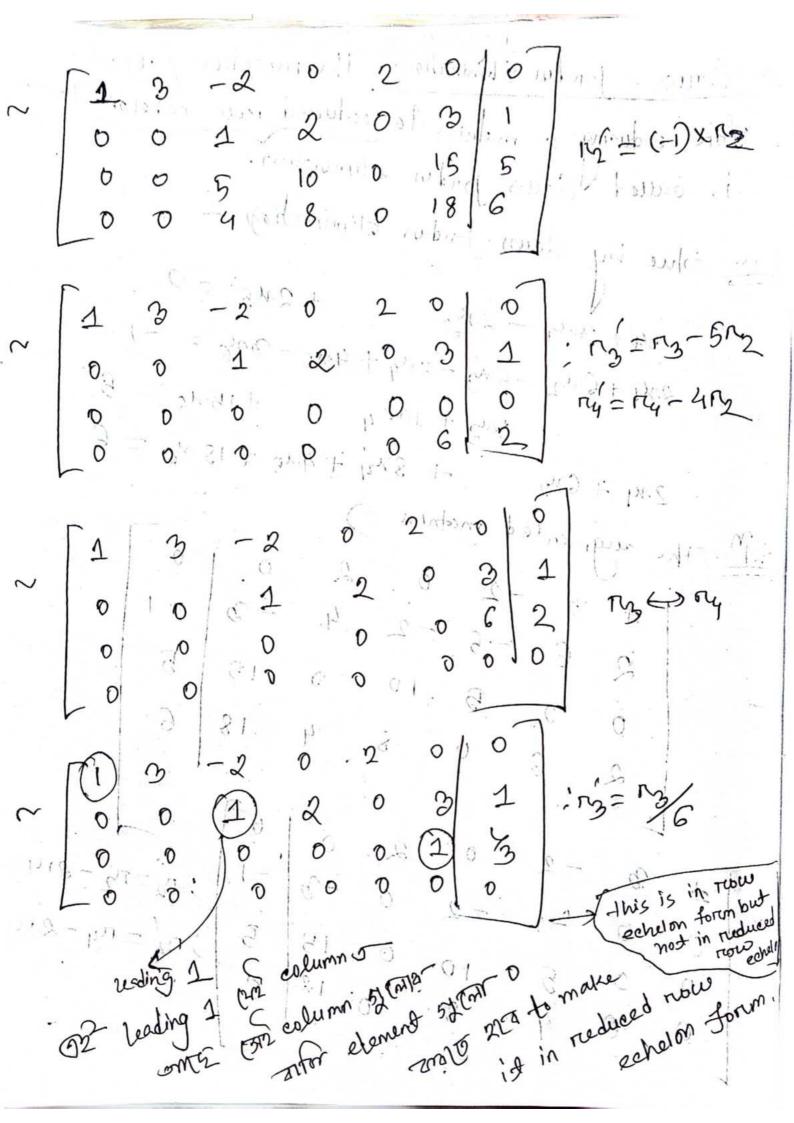
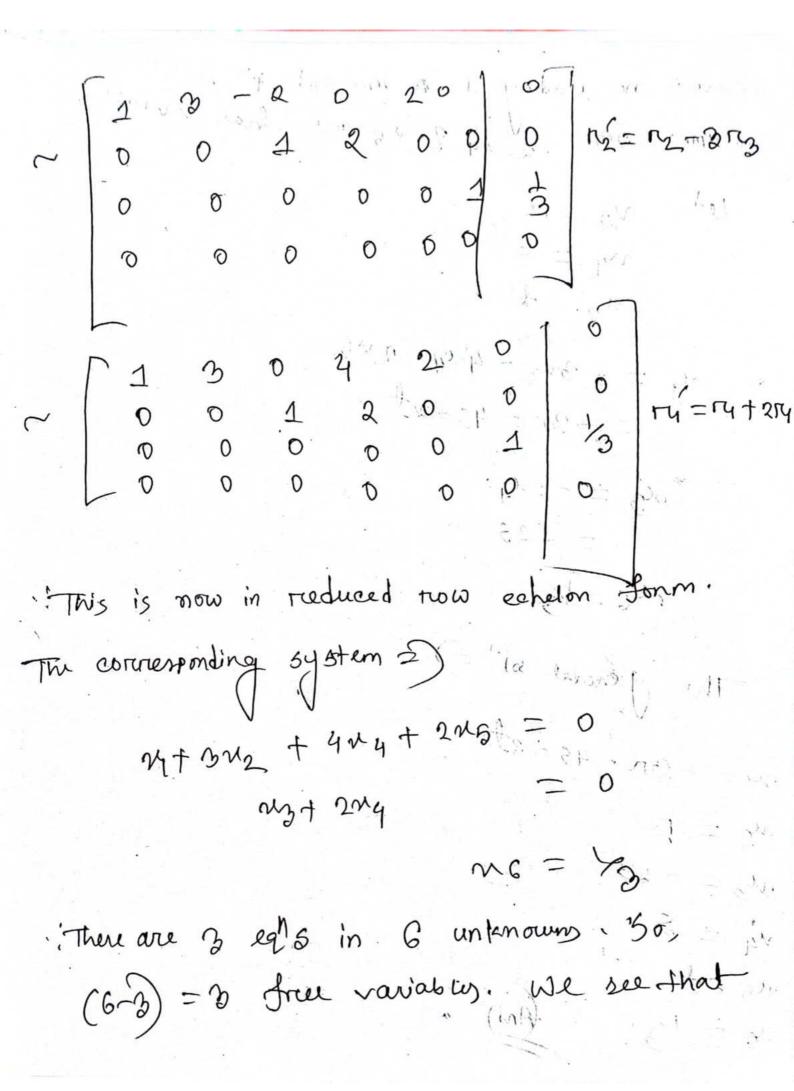
* Gauss - Jondan Elimination: The procedure / algorithm for reducing a matrin to reduced row eahelon form is called Gains- Jordan elimination. En: solve by Laws-Jordan elimination -24 + 3×2 - 2×3 + 2×5. =0 2M+6N2-5N3-2N4+4N5-3N6=-1. 5mg + 10mg 0 + 15mg = 5° 2m + 6m2 + 8my + 4ms + 18m6 = 6 501 The augmented matrin = 000 80 -2 & 0 E 20 0 0 -1-0-40, 5 0 10 44, 160 mus 1/ 50 8 812 10 mus no y on Dings





there is no leading 1 & in 2md, 4th & 5th columns 50, 22, 44 & 25 are free variables. W, No EL 24 = S N5 = 7 = -3n-45-29 Mg = -2My .: The general som =) 74=-3n-45-2+ 111 12 / C ... of = tr Nz=-25 My = 5. Constal in C in the same N5 27 NG = 1/3.

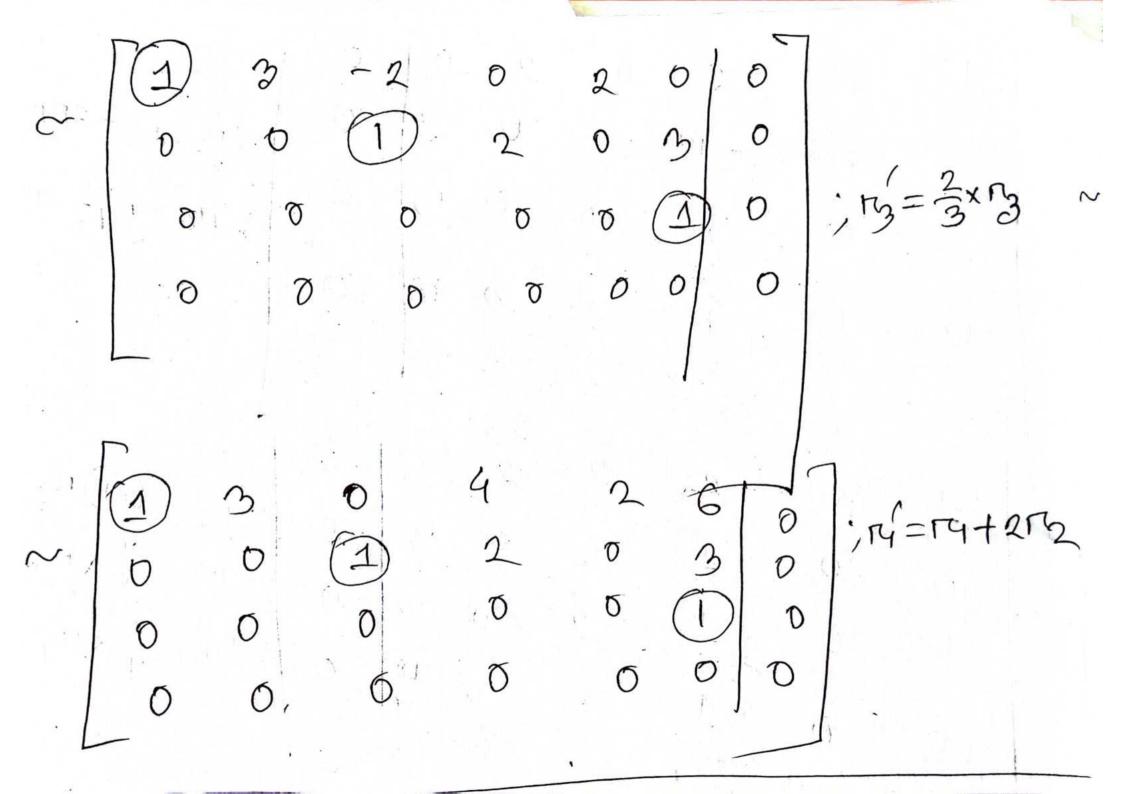
Homogeneous Linean Systems: Equation: Linear ean => antby = c If c=0, then it becomes a homogeneous linear ear ie, antby = 0 is called thomogeneous linear eq. Homogeneous finear Systems: - A system of linear ed's

is said to be homogeneous if the constant terms are

all zero, i.e. the system has the form $a_{1}m_{1} + a_{12}m_{2} + --- + a_{1n}m_{n} = 0$ $a_{21}m_{1} + a_{22}m_{2} + --- + a_{2n}m_{n} = 0$ aminy + amin's + --- + amin's = 0 * Every homo. system has at least one soft namely M=0, M=0, -- m=0. It is caused trivial soin.

If there are other soin they are caused non-trivial soin. NB Homogeneous system has either trivial som

Gaussian Elimination Vs Gauss-jondan method The augmented matrix is the augmented matrix is transformed into is transformed into reduced row row echelon (R.E.) form reduced row The augmented matrin echelon (R.R.E) En: Use Gaun-jordan elimination to Jorn. solve the homogeneous linear system -M+ 3M2-2M3 + 2M5 = 0 204+ 6M2-5M3-2M4+4M6-3M6=0 5 ng + 16 ng + 15 ng = 0 2M+6m2 +8m4+4m5+18m6=D. 501 The corresponding augmented matrin =) : mitions pinning



0 4 2 0 0 0 0 0 0 ry=14-62 0 0 This is in reduced row echelon form. The corresponding system = e arte 3 equations in 6 unknowns. 11, 50; (6-3) = 3 free variables. Ato, My, and Morare free variables W, 1/2 = 12, 1/4 = 15, 1/5 = & 3×2-4×4-2×5 (3) =) NG=0

So, the required son >> 24 = - 3n - 45 - 29 we get the trivial som ie. then we have =) 74=0, 1/2=0, 1/3=0, 24=0, 1/5=0, 1/6=0 Exercise. set 1.2 97 imp. for basic Practice Prob=7 1, 3, 5, 7, 15, 23 Answery our back side of the POOK