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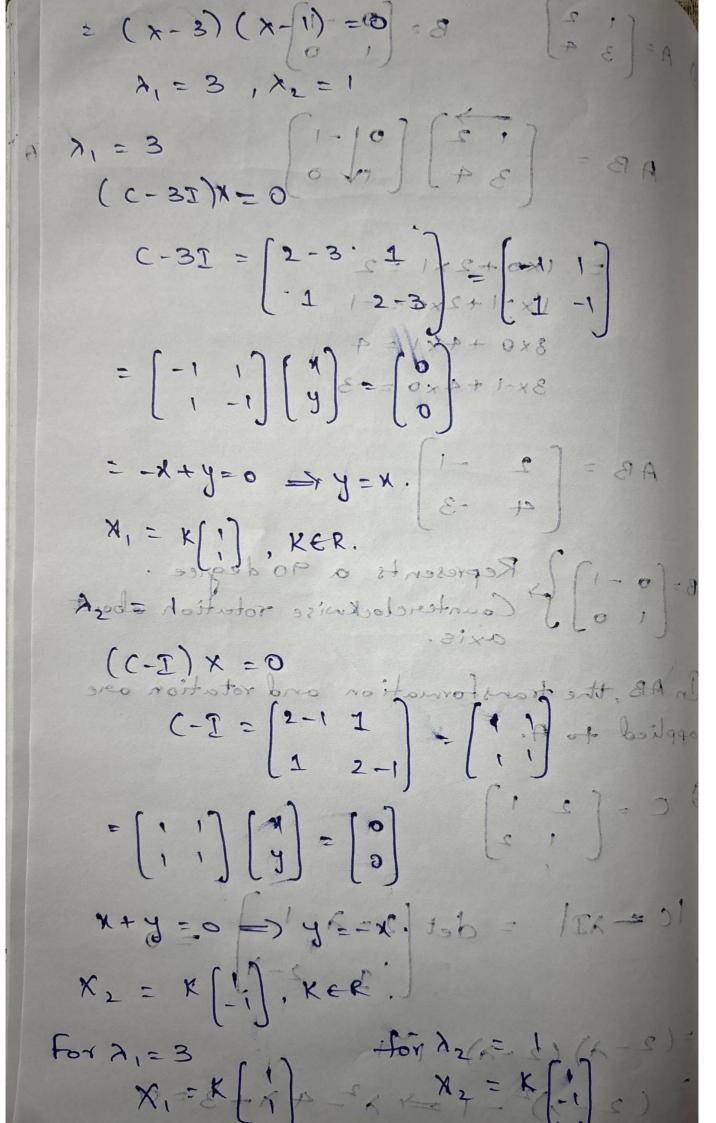
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$$AB$$



3 Given initial aposition (p) = [2] 8 1 A) 9 Robot Arm (Al8)9 (A)9+ (A)8)9 (A)91
Robot Arm (A)8)9 (A)9+ (A)8)9 (A)91 about origin. let us take it as R. R= (Cos(90) - Sin(90) = [0 -1]
Sin(90) (cos(90)) = [0] To find Pafter rotation, multiply P and R. a let new position be X breoknote) s = 3 $X = PR = \begin{bmatrix} 0 & -1 \end{bmatrix} \begin{bmatrix} 2 & 1 & 1 & 1 & 1 \\ 2 & 1 & 1 & 1 \end{bmatrix} = X$ eldet no studiotique lourson lo reobrote prisulist 1 x2 + 0 x 1 for 2 y 0 of 2 y 0 X = [-1] (-) X i sitrobotavirio 2DSpace. 8(エメリ=1-6(エデ1)=1-0,841320。1887 For Bayesian interence.

A = Where object is there (present) 881.0 2 B = where object is actually detected. P(BIA) = 80%. = 0.8 P(A) = 30% 20.3 P(B/A) = 0.1 $P(\overline{A}) = 0.7.$

P(A/B)=P(A) P(B/A) oitini nevid P(A) P(B/A) +P(A) P(B/A) m, A today 9 20 0:3×08 tol 40024tudo 0.3 x0.8+0.7×0.16) (013) 0) = (24) (op) vil 10 tind Patter rotation, military of brit of 6 = 2 (Standard deviation) ities querital

X = 4 (Probability) | 1-0 | = 99 = x Z = X - M = Z = 7-5 = 2 = 1

P(X Y 7) - Totind. where P(ZYI). By using standard normal distribution table, 20092 PEZIET) = 1008413:1 X (m) = X P(Zx1)=1-P(ZE1)=1-0.8413=0.1587 Probability of reading being greatesthan 7 is 0.1587. B = where object is actually detected. 8.0= 1.08= (418 P(A) = 30% = 0.3 .F.O = (A)9 1-0 = (A)8

$$G = \frac{1}{2} =$$

$$= \frac{-1 \times 0.7165}{6.2832 \times 1.732} = 0.063$$