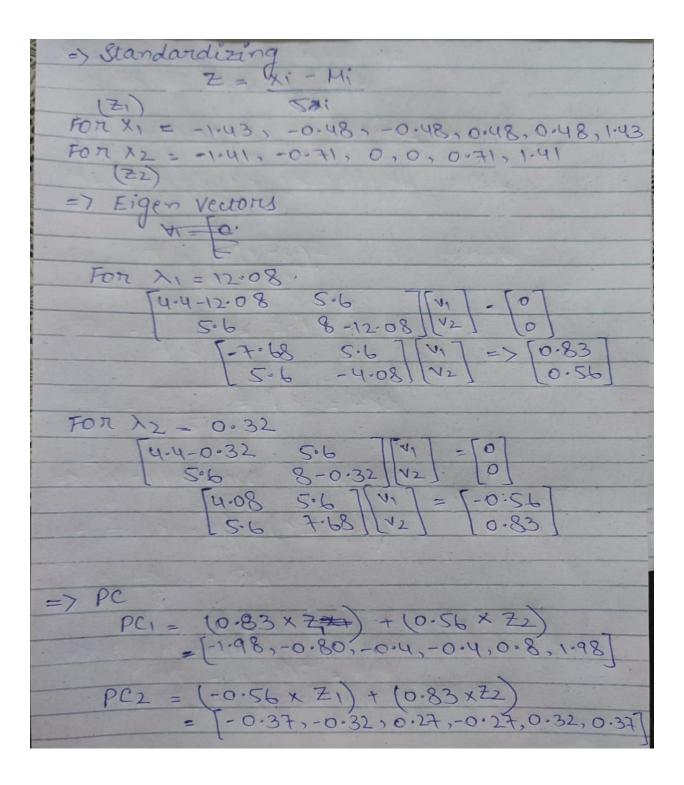
X1 = 126, 128, 128, 130, 130, 132 x2 = 78,80,82,82,84,86 HI = 126+128+128+130+130+132 = 129 M2 = 78+80+82+82+84+86 = 82 2 = /2(x-M)2 52 = 140 = 18 = 2.83 => co-variance = 28 = 5.6 =7 Eigen Values $5^2 = (2.1)^2 = 4.4$ $5^2 = (2.83)^2 = 8.00 = 8$

Covariance Matrix =
$$\begin{bmatrix} u \cdot u & 5 \cdot 6 \end{bmatrix}$$
 (c)
 $\begin{bmatrix} u \cdot u & 5 \cdot 6 \end{bmatrix} - \begin{bmatrix} \lambda & 0 \end{bmatrix} = 0$
 $\begin{bmatrix} u \cdot u & 5 \cdot 6 \end{bmatrix} - \begin{bmatrix} \lambda & 0 \end{bmatrix} = 0$
 $\begin{bmatrix} u \cdot u - \lambda & 5 \cdot 6 \end{bmatrix} = 0$
 $\begin{bmatrix} 3 \cdot 6 & 8 - \lambda \end{bmatrix} - \begin{bmatrix} 31 \cdot 36 \end{bmatrix} = 0$
 $\begin{bmatrix} 35 \cdot 2 - 12 \cdot 4 \lambda + \lambda^2 - 31 \cdot 36 = 0 \end{bmatrix}$
 $\begin{bmatrix} \lambda^2 - 12 \cdot 4 \lambda + 3 \cdot 8 \cdot 4 = 0 \end{bmatrix}$
Using Quadratic Formula
 $\begin{bmatrix} \lambda = -(-12 \cdot u) = d(-12 \cdot u)^2 - u(0)(3 \cdot 8u) \end{bmatrix}$
 $\begin{bmatrix} \lambda = 12 \cdot u + 1 \cdot 76 \end{bmatrix}$
 $\begin{bmatrix} \lambda = 12 \cdot u + 1 \cdot 76 \end{bmatrix}$
 $\begin{bmatrix} \lambda = 12 \cdot u + 1 \cdot 76 \end{bmatrix}$
 $\begin{bmatrix} \lambda = 24 \cdot 16 \end{bmatrix}$
 $\begin{bmatrix} 2 \\ \lambda = 24 \cdot 16 \end{bmatrix}$
 $\begin{bmatrix} 2 \\ \lambda = 24 \cdot 16 \end{bmatrix}$
 $\begin{bmatrix} 2 \\ \lambda = 0 \cdot 6u \end{bmatrix}$
 $\begin{bmatrix} 2 \\ \lambda = 0 \cdot 32 \end{bmatrix}$



Date: => Entropy (Achieved Goal)

Pyes = 5 Pro = 4

9 E(AG) = -5 109 5 - 4 109 4 =-5 (-0.847)-4 (-1.17) = 0.47+0.52 = 0.99 => Information Gain: 1) Exercises Daily = Yes · AG = Yes => P= 4/5 · AG = NO => P = 1/5 Entropy = -4 109 4 -1 109 1 (Yes) 5 5 5 5 5 =-4 (-0.322) -1 (-2.32) = 0.257+0.464

= 0-721 · ACI = Yes => P= 1/4 " ACT = NO => P = 3/4 [NO) 4 109 1 - 3 109, 3 = -1 (-2) - 3 (-0.415) = 0.5 + 0.311 = 0.811 => Weighted Average Entropy = 5 x 0.721 + 4 x 0.811 = 0.4+0.36 = 0.76