· lio Cic. ريت کا حر رية ر - Gue duse -4.1 1.01 1/1 L abost 400 " على الم على طعة سر Bayes مر طعة طري (از تا فال بنير و طعة سرادسال Nj = argmax p(Nj) p(x/Nj) jsl-m Tul jo ( This in Pag) = 1 - may rout, m=3 == ( P(XIS) Apar your bow you was provided to post P(XIS) (X/Ysi) ~ N(hi, [:) : Mis c n=2, -midriche gi =  $D P(x; h_i, \Sigma_i) = \frac{1}{(2\pi) |\Sigma_i|^2} enp(-\frac{1}{2}(x-h_i)^{\top} \Sigma_i^{-1}(x-h_i))$ μ<sub>1</sub> = (°), Σ<sub>1</sub> = (°, ο, 7) = 0.7 | Σ<sub>1</sub> = 0.49, Σ' = 100 (°, 70): i=1  $\mu_2 = \binom{i}{1}$ ,  $\sum_{2} = \binom{0.8 \text{ o.3}}{0.3 \text{ o.2}} = \mathbb{Z}_2 = 0.07$ ,  $\sum_{2} = \frac{100}{9} \binom{0.2 - 0.3}{0.8} = \frac{1}{i} = 2$  $J_{13} = \begin{pmatrix} 1 \\ 1 \end{pmatrix} = \begin{pmatrix} 0.7 & 0.7 \\ 0.2 & 0.8 \end{pmatrix} = 0 \begin{bmatrix} 7 \\ 2 \end{bmatrix} = 0.52, \quad 7 = \frac{168}{52} \begin{pmatrix} 0.8 & -0.2 \\ -0.2 & 0.7 \end{pmatrix} : i = 3$ 

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$$P(x|\mathcal{R}_{1}) = \frac{1}{2\pi \times 0.7} \times \exp(-\frac{1}{2} \times \frac{100}{49} (50 05) \begin{pmatrix} 0.7 & 0 \\ 0.5 \end{pmatrix}) \begin{pmatrix} 0.7 & 0 \\ 0.5 \end{pmatrix}$$

$$= \frac{1}{1.4\pi} \exp(-\frac{1}{2} \times \frac{100}{9} (49 - 0.5) \begin{pmatrix} 0.7 & 0 \\ 0.7 & 0.7 \end{pmatrix} = -1787.3$$

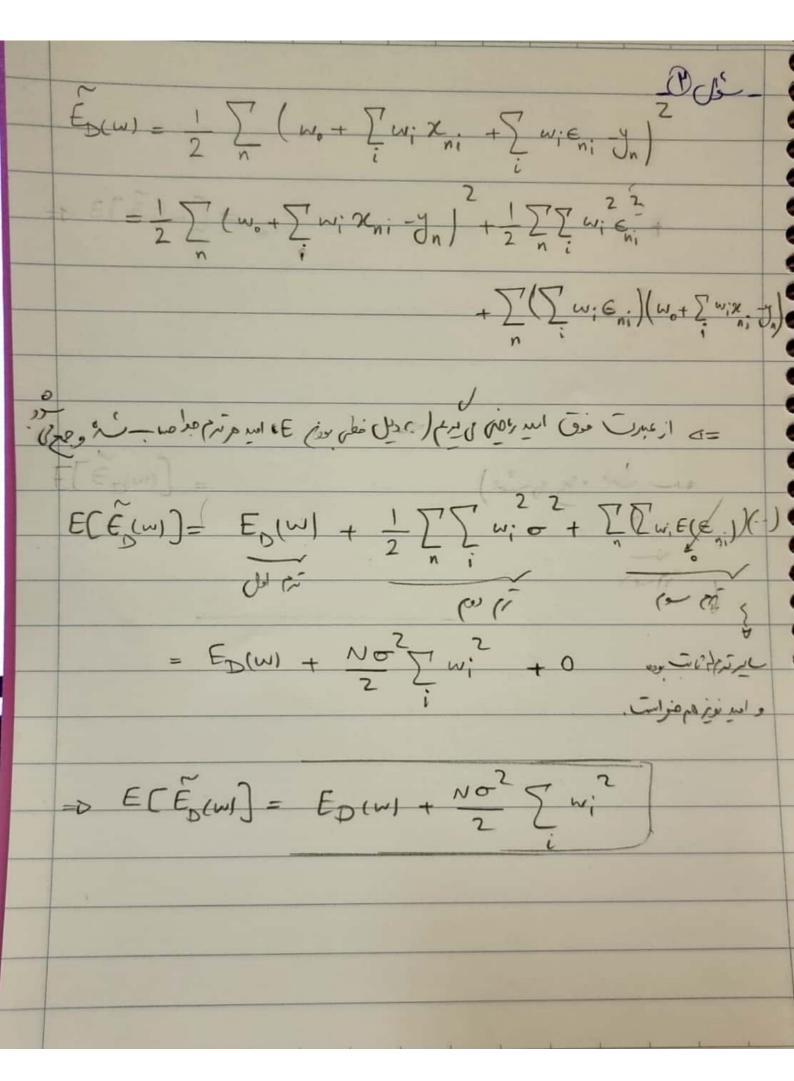
$$P(x|\mathcal{R}_{2}) = \frac{1}{0.2\pi \times 17} \exp(-\frac{1}{2} \times \frac{100}{9} (49 - 0.5) \begin{pmatrix} 0.2 & -0.3 \\ -0.3 & 0.9 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.3 & 0.9 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.3 & 0.9 \end{pmatrix}$$

$$= \frac{1}{0.2\pi \times 17} \exp(-\frac{1}{2} \times \frac{100}{52} (49 - 0.5) \begin{pmatrix} 0.8 & -0.2 \\ -0.2 & 0.7 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.2 & 0.7 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.2 & 0.7 \end{pmatrix}$$

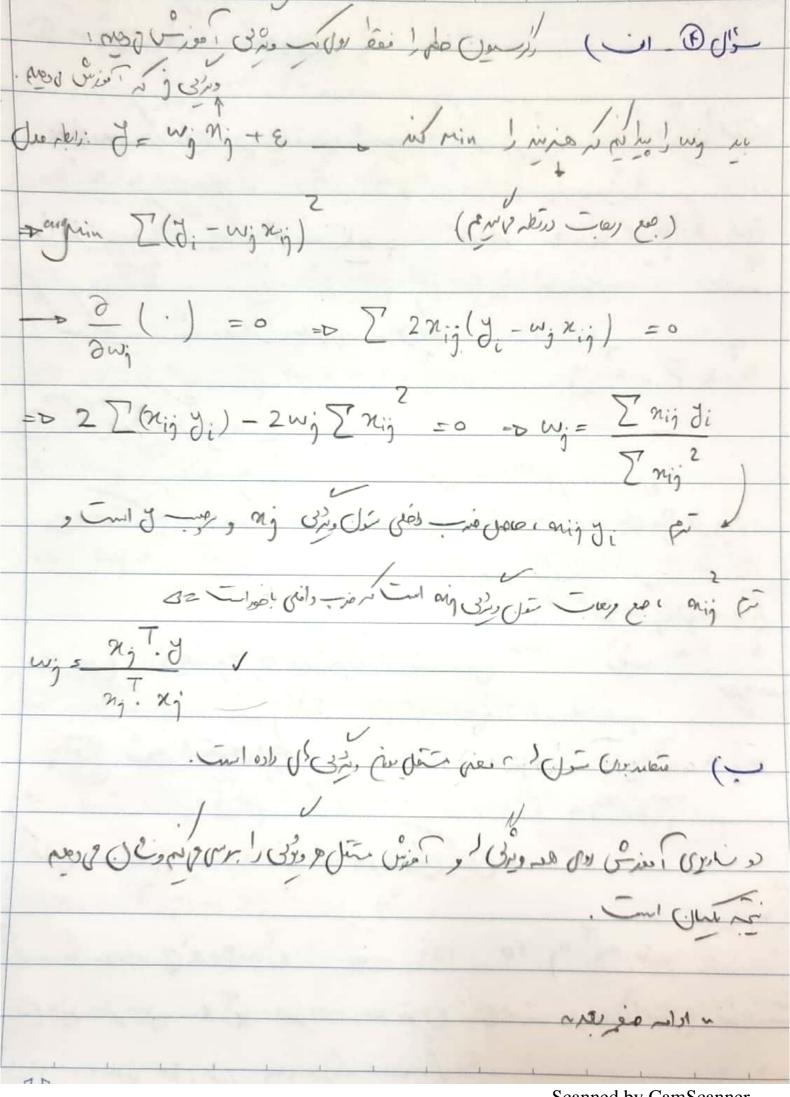
$$= \frac{1}{0.2\pi \times 152} \exp(-\frac{1}{2} \times \frac{100}{52} (49 - 0.5) \begin{pmatrix} 0.8 & -0.2 \\ -0.2 & 0.7 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.5 \end{pmatrix}$$

$$= \frac{1}{0.2\pi \times 152} \exp(-\frac{50}{49} (0.5 \times 0.5) \begin{pmatrix} 0.7 & 0.5 \\ -0.7 & 0.7 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.5 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.5 \end{pmatrix}$$

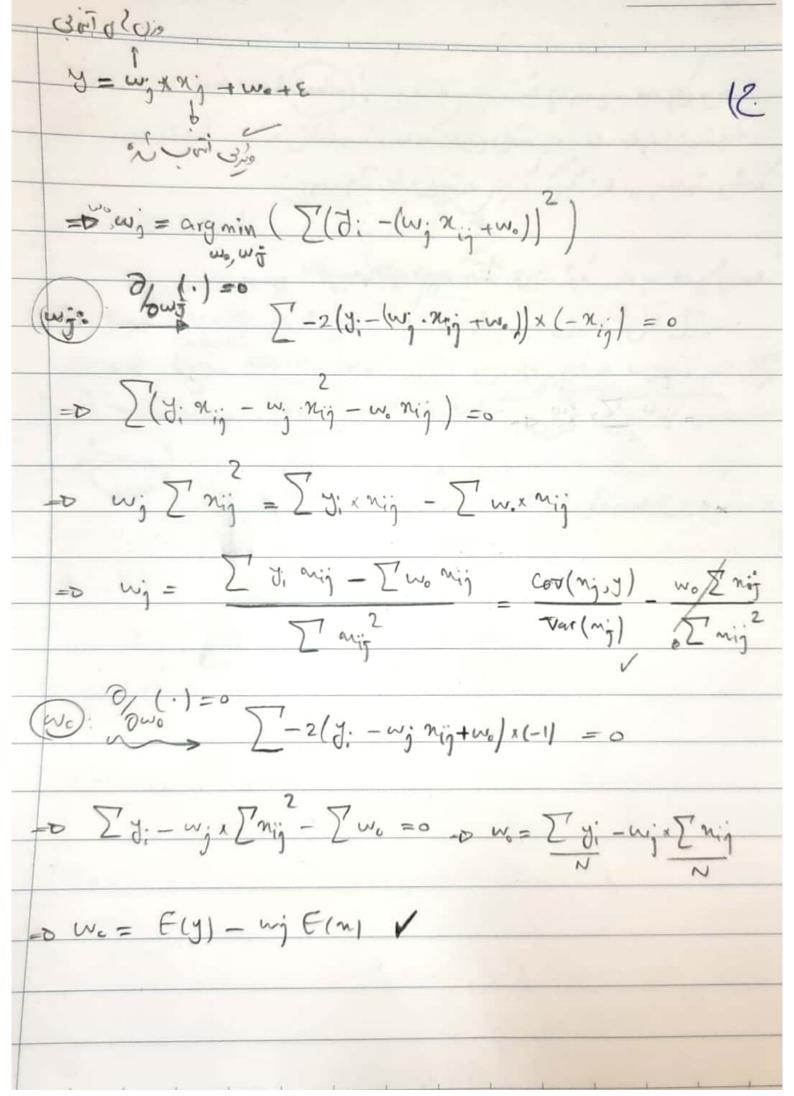
$$= \frac{1}{0.2\pi \times 152} \exp(-\frac{50}{9} (0.5 \times 0.5) \begin{pmatrix} 0.7 & 0.5 \\ -0.7 & 0.7 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.5 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.2\pi \times 17 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.5 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.7 \end{pmatrix} \begin{pmatrix} 0.9 \\ -0.$$

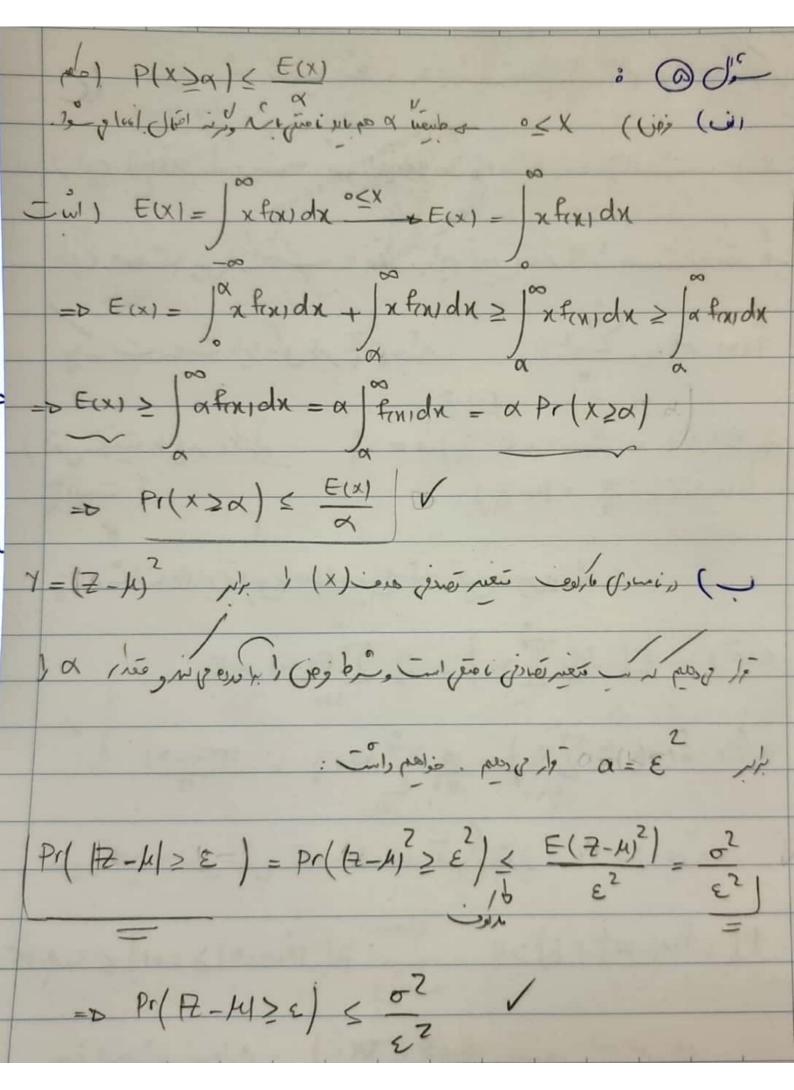


	class 2: $\ln\left(\frac{P_1}{P_K}\right) = \frac{P_1}{P_2}$ class 2: $\ln\left(\frac{P_2}{P_K}\right) = \frac{P_3}{P_4}$ $\frac{P_4}{P_5}$ $\frac{P_4}{P_5}$ $\frac{P_5}{P_5}$ $\frac{P_5}{P$
	class 2: $\ln\left(\frac{P_i}{P_K}\right) = \frac{e^{P_i T_{Z_i}}}{e^{P_i T_{Z_i}}}$ class 2: $\ln\left(\frac{P_i}{P_K}\right) = \frac{e^{P_i T_{Z_i}}}{e^{P_i T_{Z_i}}}$ $\frac{1+\sum_{i=1}^{K-1}e^{P_i T_{Z_i}}}{e^{P_i T_{Z_i}}}$
	$B_2^T x$
	$\frac{PK}{PK} = \frac{F_2}{F_2} \frac{P_1(.)}{P_1(.)}$ $\frac{1}{PK} = \frac{1}{PK} \frac{B_2^T x_i}{PK}$ $\frac{1}{PK} = \frac{1}{PK} \frac{B_2^T x_i}{PK}$ $\frac{1}{PK} = \frac{1}{PK} \frac{B_2^T x_i}{PK}$
	Class k
	$\frac{\text{class}_{k-1} P_i}{\text{class}_{k-1} P_{k-1} = \frac{B_{k-1}^T N_i}{P_{k-1}}}$
	1+ \( \frac{k-1}{2} \end{array} \)
	Classk: Pks The Bit mi
	$L(B_i,x) = \sum_{i \leq 1} log(P_i(x_i,B_i^T)) = \sum_{i \leq 1} log(\frac{B_i n_i}{1 + e^{B_i^T n_i}})$
	isi Jen
	OL(B, mi) = TO DIBMI DIMI
	DB Z DB N
	Jyn. nie BTai - Juily D.1
	$= \underbrace{C_{i+1}}_{1+e^{B^T n_i}} \underbrace{C_{i+1}}_{1+e^{B^T n_i}}$
	DLIBYI- WTY-DI
100	

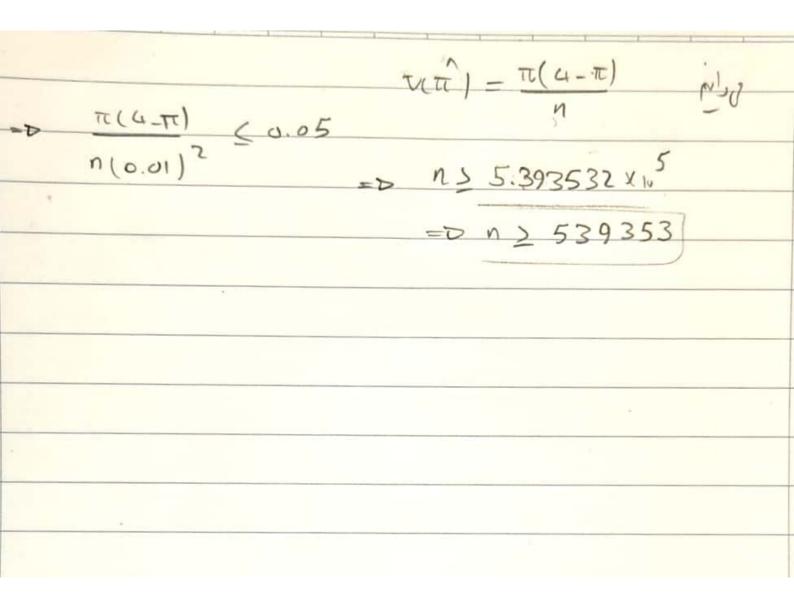


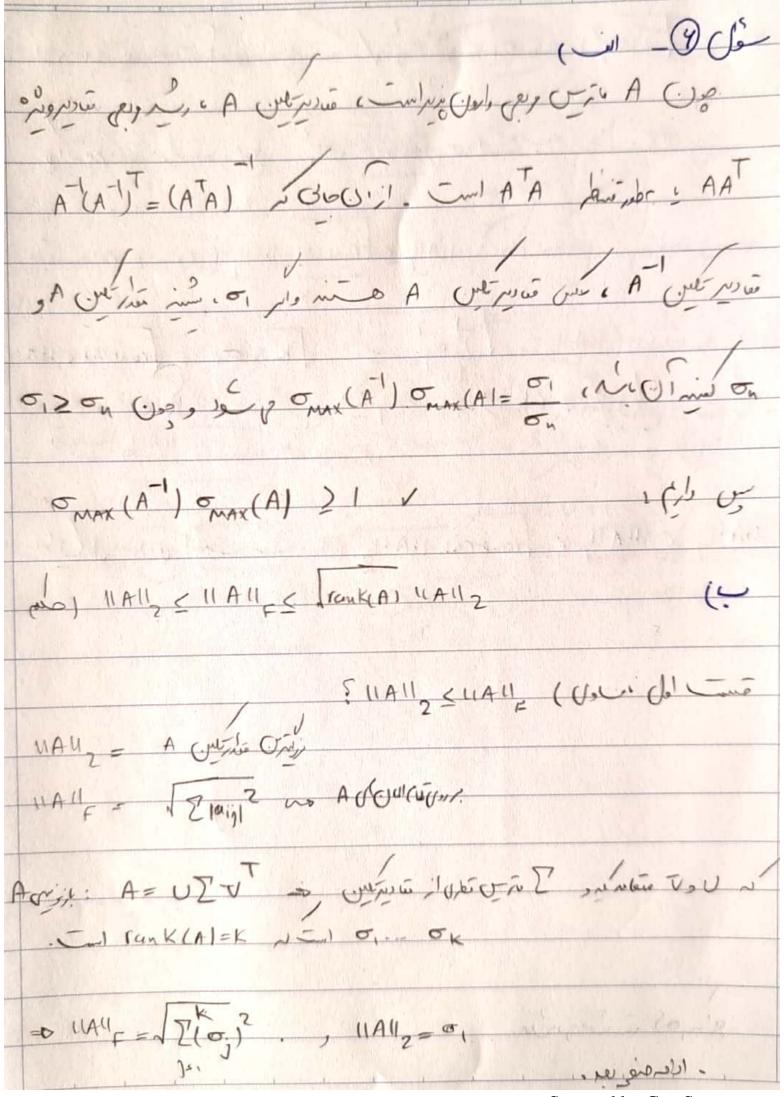
( را اوزی کی معاومہ ویزی کی هنوان ) 7 = X. B + Ens 10 = 5 | De con in a poison of the construction of مل عقب بول ع كم عنون مع وبعات م العد السريد عدد معان ت ماده روم روالل م X. X. B = X. J ا وزي تقل هوريي: wj = Mj.J vj introut on glan النول بن عن هم وراسترای تین هم دروس مین اند: Victor and mit. my so it j - xt.x. Bxxty when all is in the de de in it is in it Scanned by CamScanner

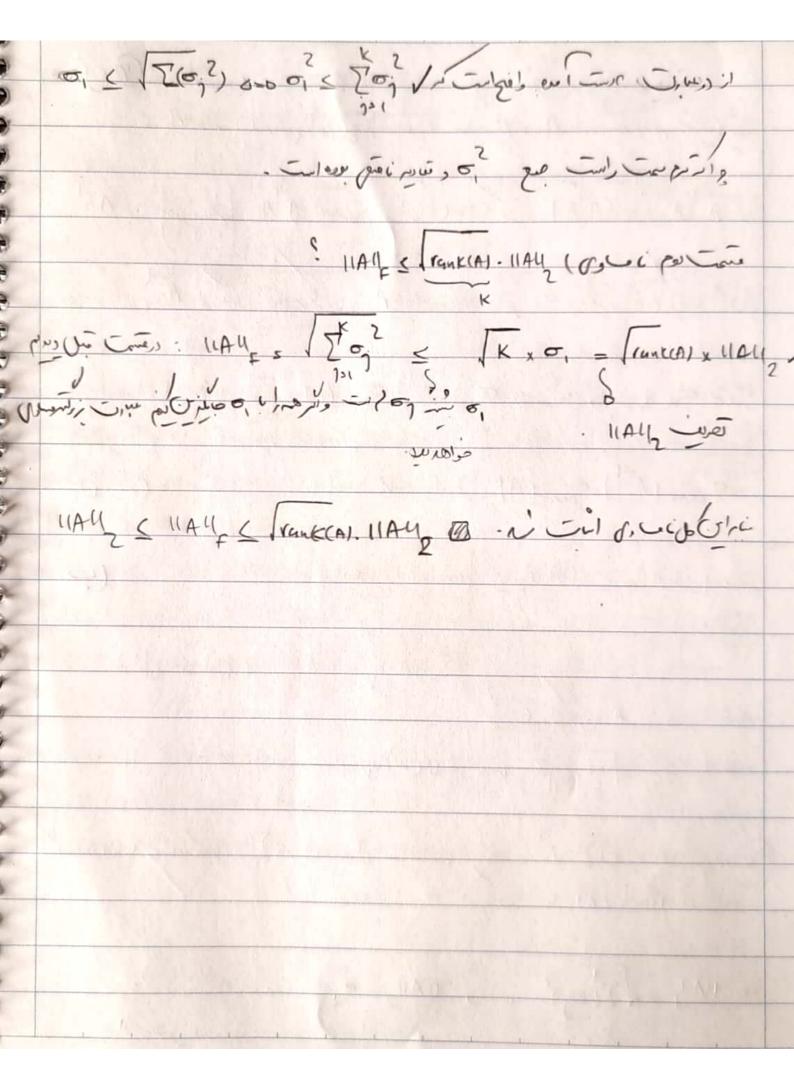


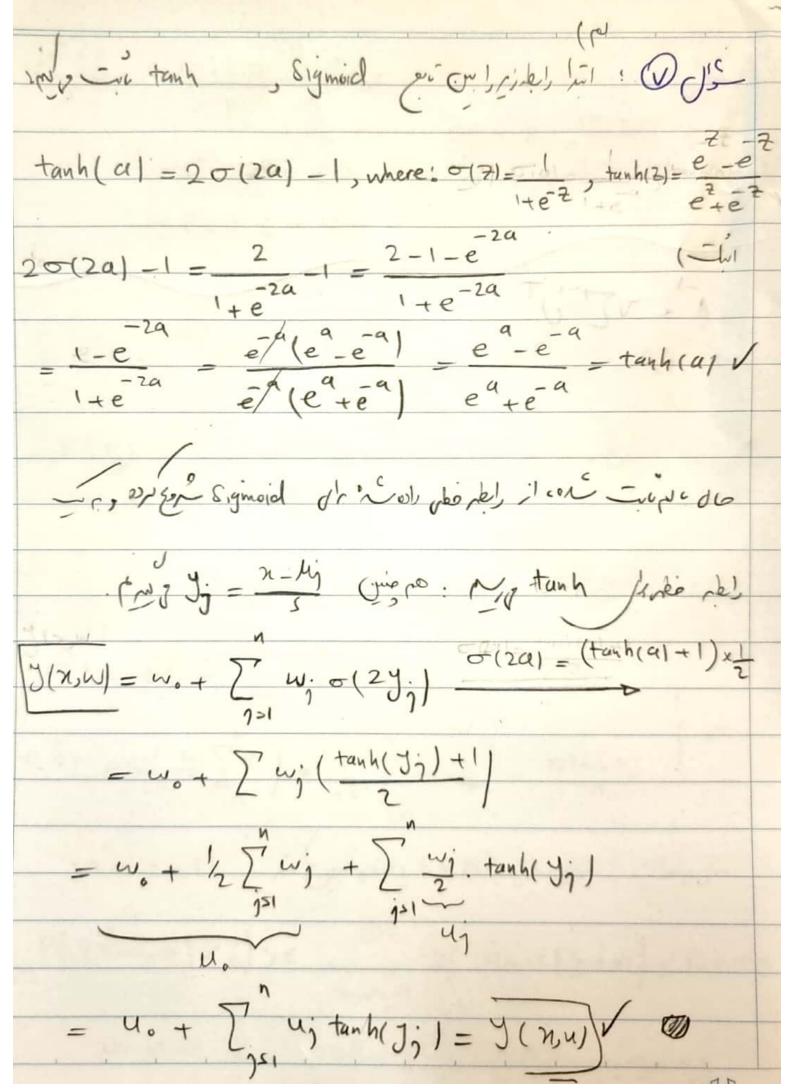


از این ریوانت به روی در راف رایره بود ۱= ۲۰ و درنسرای صور ۱ رای صور از انه به معلم سوانی کسل عدر ۱ را بودر زیر درتعار میس Tien) = 4. \(\sum\_{\text{isi}} \times \). \(\sum\_{\text{isi}} \frac{\pi}{4} \rangle \sum\_{\text{or}} \\ \gamma\_{\text{or}} \\ \gamma  $= \frac{1}{4} \times 1 + \left(1 - \frac{\pi}{4}\right) \times 0 = \frac{\pi}{4} \times \left(1 - \frac{\pi}{4$ ن ان ان کار اس کیس سرال بیا راست و کیس محمومیاند:  $E(\frac{1}{n}) = E(\frac{4}{n}\sum_{i\neq j}x_i) = \frac{4}{n}\sum_{i\neq j}E(x_i) = \pi$  $\nabla(\hat{\pi}) = \nabla\left(\frac{4}{n}\sum_{i\leq 1}^{n}X_{i}\right) = \frac{16}{n^{2}}\nabla(X_{i}) = \frac{\pi(4-\pi)}{n}$ : N: 6= 11. 1/20 (not abo: 8 = 95). The dool of muliondo 









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