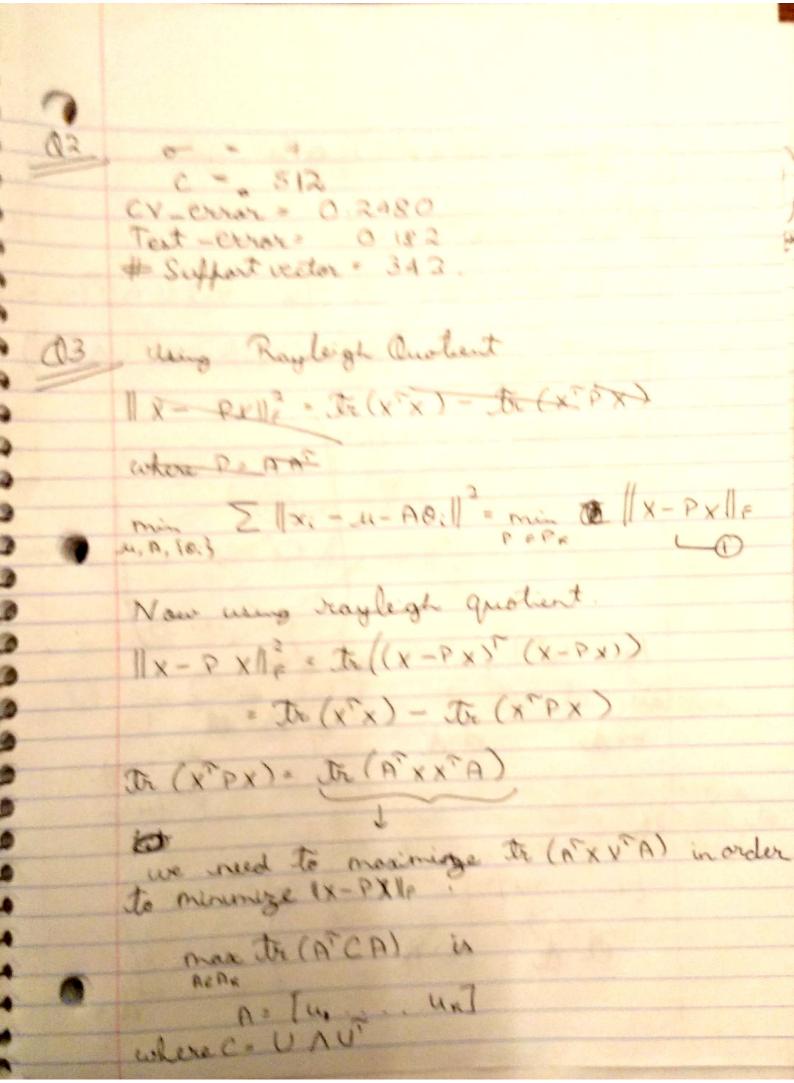
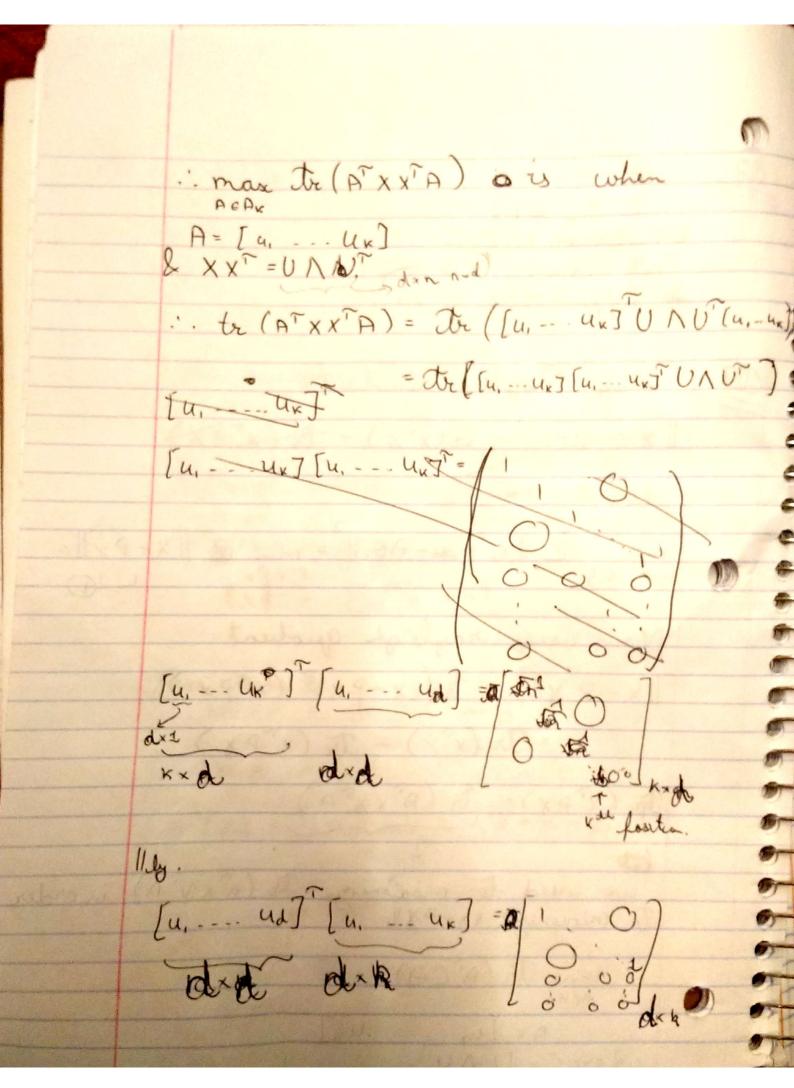
(I) For margin errors, 5 = 1 - y: (w* x: +b*) $y: (w^{r}X_{i} + b^{*}) = 1 - 3i$ $w^{r}X_{i} = = (1 - 3i)/9i - 5i$ The eq. of hyperflone is $y_i(w^{\tau} \times +b) = 1$ $ie \ w^{\tau} \times +b - /y_i = 0$ Both of these hyperflanes: We know dustance of a foint(2) from a hyperplane in (w'x+b) is given by 121 = W = + bt IIwII Here z is \$i ... w Xi = 1-5i - b

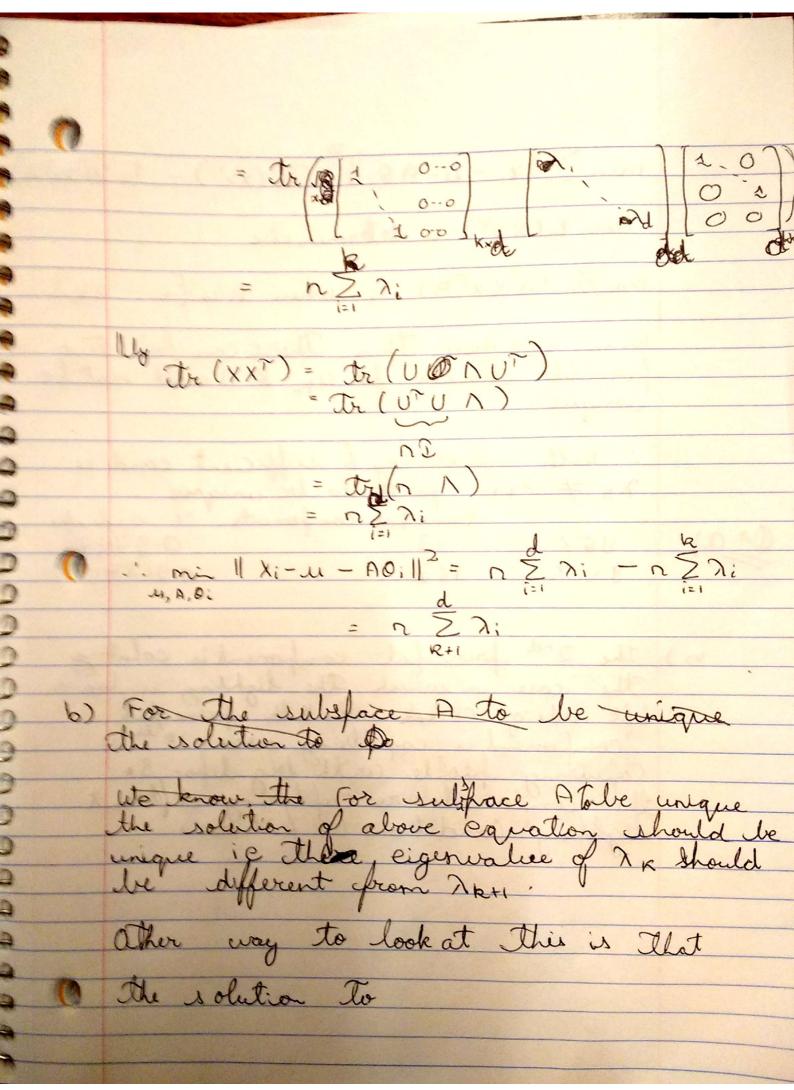
Yi & b = b - /yi :. | rl = | (y- 3i)/yi - b+b-1/vi | 1rl = [3i/yi] 121 x 31 11will & The constant of frofortionality

= 1/9:111 W11



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min \[\lambda \lambda : \lambda = \text{Tr} (xx^2) - \text{Tr} (A^2 xx^2) \\

Here \ta(x x^2) is deterministic Here telxx) is deterministic Smite (AXXTA) is when A'ce [u, -- uk] When In = Nan then there can be two for while choices for up & A will not be 1 --Solh necessary & sufficient condition in the property of the designe.

Description of the angre.

Desc 4 *** (Da a) the case in which the lighting is lower left and of chelok, the With frincipal component is capating rose, 18th is Component is capating rose, 18th is Capating people with big life. So, the component are capturing different lighting Conditions of peakeres. 6000