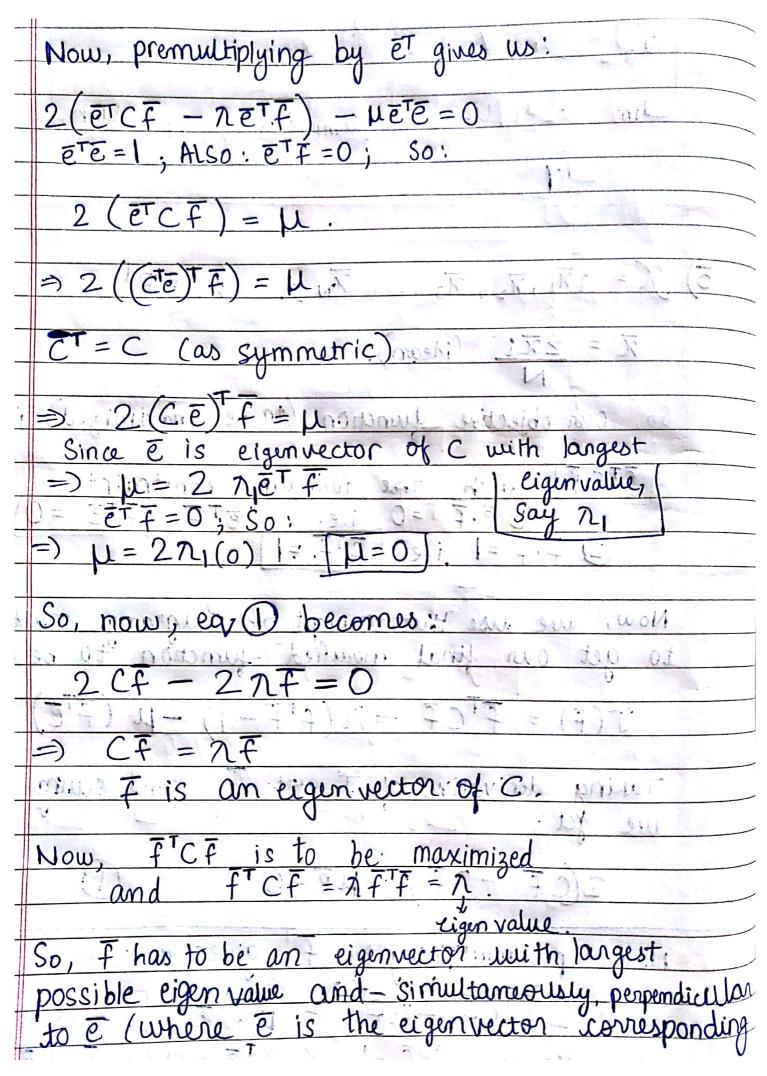
5)	$\chi = \{ \overline{\chi}_1, \overline{\chi}_2, \overline{\chi}_3, \dots \overline{\chi}_N \} = \{ \overline{\chi}_i \in \mathbb{R}^d \}$
1	
- 1	$\bar{\chi} = \underline{\Sigma}\bar{\chi}i$ (Mean) sintemple at $D = 17$
	So, Our objective function (to be maximized) is: [FICF] with the following constraints: $D \in F = 0$ i.e. $e^{T} = F = 0$ (2) $f \cdot f = 1$ i.e. $f^{T} = 1$
4-17-	in a is eight rector of a min anglot
	ficition with the following constraints:
	DEF = O i.e. eTE = FTE = O
	2 f. f=1 i.ev = FT f=1 (0) (0) = 11
Time	
	Now, we use the concept of Lagrange multipliers to get our final modified function to be optimized:
	to get our final modified hunction to be approved.
75.	= = = To be optimized:
AL.	$J(\bar{f}) = \bar{f}^{T}C\bar{f} - \Lambda(\bar{f}^{T}\bar{f} - 1) - \mu(\bar{f}^{T}\bar{e})$
	The state of the s
	Taking derivative of J wrt f, and setting it to 0
	Taking derivative of J. wrt f., and setting it to 0
	how Fich is too he included
-	2(cf-7f)= He=01=
*	



to the largest eigenvalue. Hence, we must have $f \neq e$ & f maximing $f^T C f$, i.e. as large eigenvalue as possible. Thus, f has to be the eigenvector corresponding to 2^{nd} largest eigenvalue.