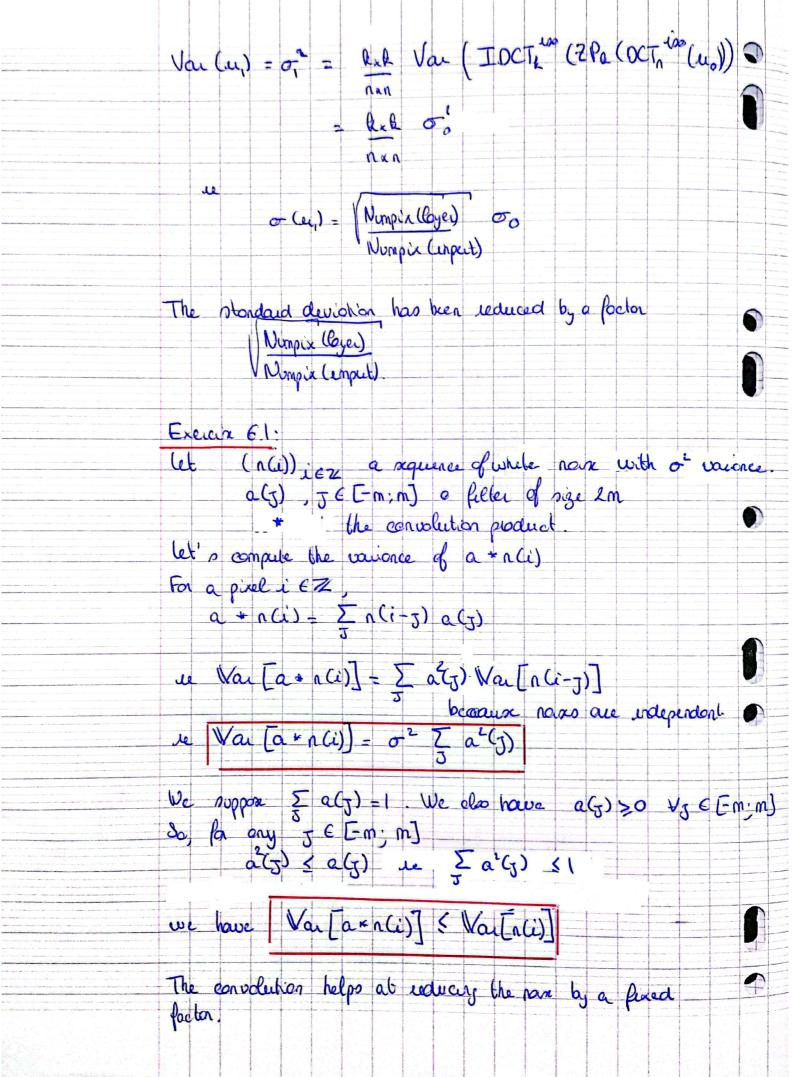
IM	OEN	le 12/10
	Homework 2:	
let	n: dimension ofinitial image	
	de dimension of emore at lower scale up : withal emore u, : lower scale emore	
0	DCTobs: incretive OCT at scale a OCTOB: incretive OCT at scale & ZPR: the pedding operator keep the top left like of	ref.
10	go from us, to ex, see need to: i) transform us to the frequency space is u' = OCT_1 so Cus)	
	ii) pad the resulting amore see the largest fre u'' = ZPk (u') = ZPk (OCT of (uo)). iii) we then adjust the scale of the image. To do so, a multiply the convent amore by k = kxk = /N	ue
	multiply the convent max by $k = \int kxh = \int kxh$	empix (expect)
	non non non non non non non non	<u>e</u> m
	u, = OCTe 100 (u") u, = V Re IDCTe 100 (ZPe (DCT 100 (ue)))	
O The	final image in contains a with sausion uniform noi	x re
en	a 1 1 1 1 1 1 1 1 1	
		U



Now let's bok at the optimal filter weights. We wont a = aymin \(\sigma^2 \circ\) [a(i)=(This is a continuous concine convex cost function with linear inequality contraint in the problem is convex. let's opply KKT conditions ise
For the solution à, there exists p GR such that friEEm;m) $2\hat{a}(i) + p = 0$ and $\hat{\Sigma}\hat{a}(i) = 1$ $\hat{a}(i) = -p$ and $\hat{\Sigma}\hat{a}(i) = 1$ ie â (i) = -p and - (2 m ti) p = 1 ie â(i) = 1 , Vi & [m; m]