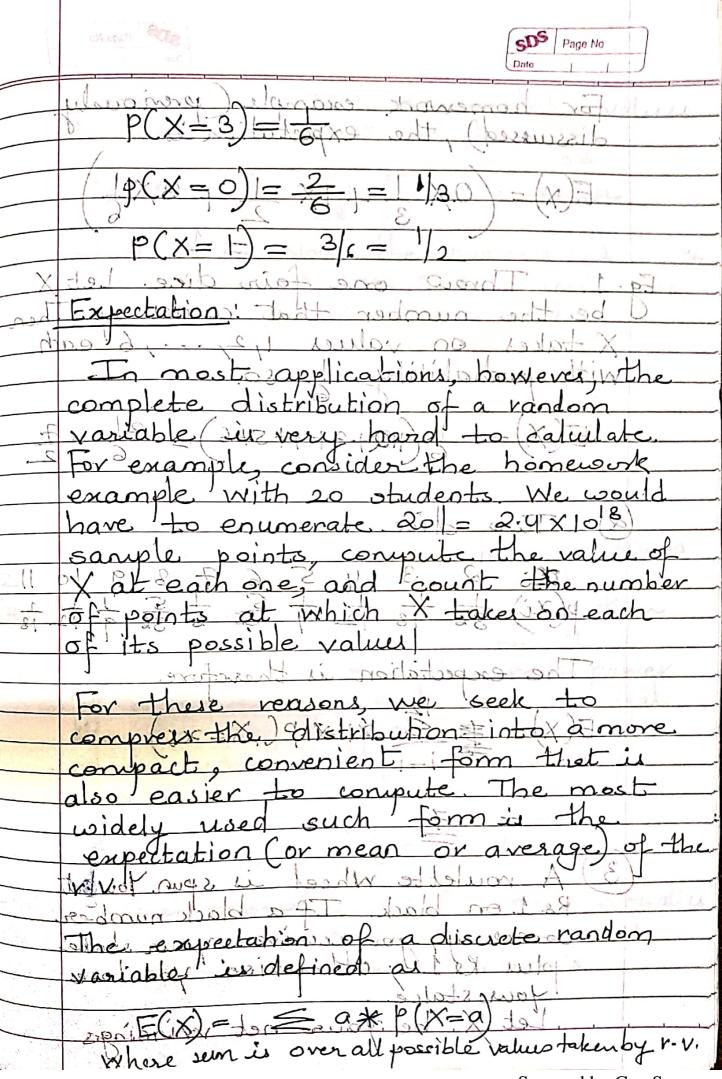
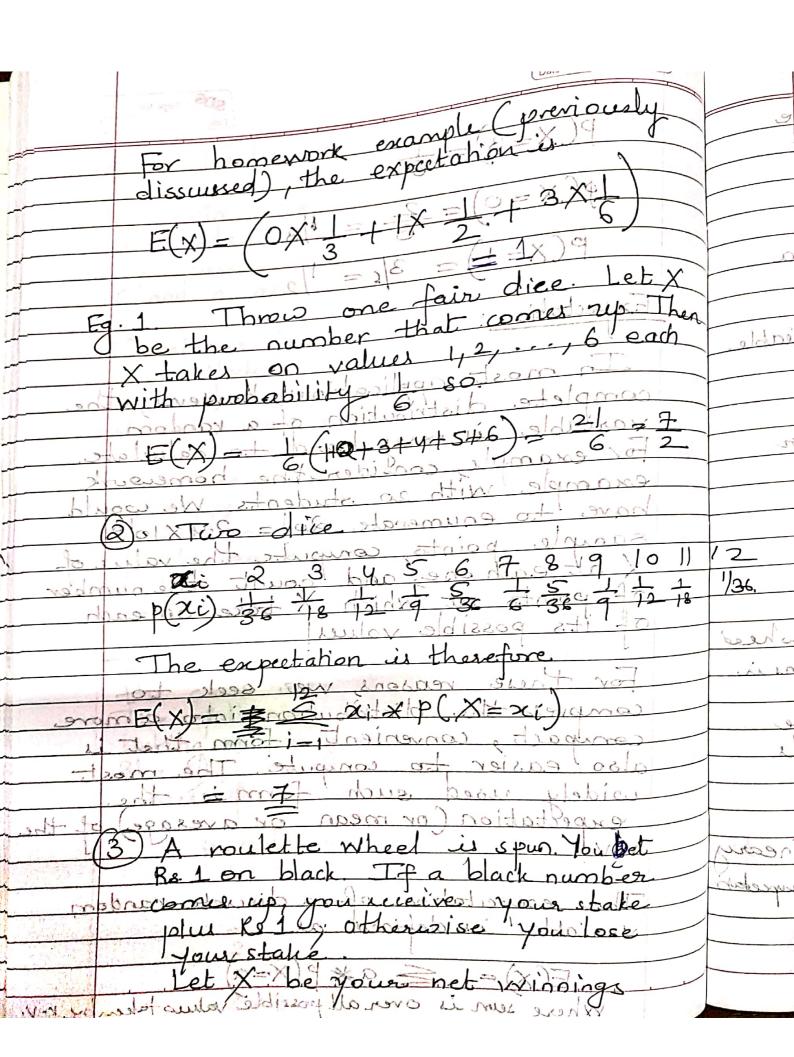
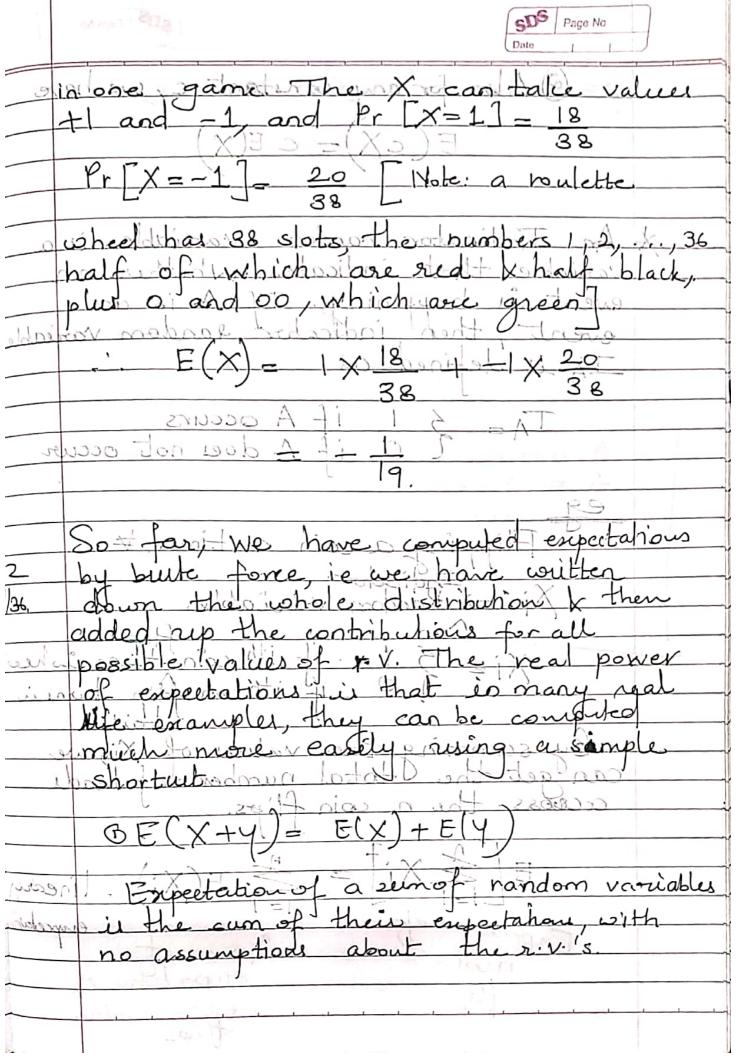
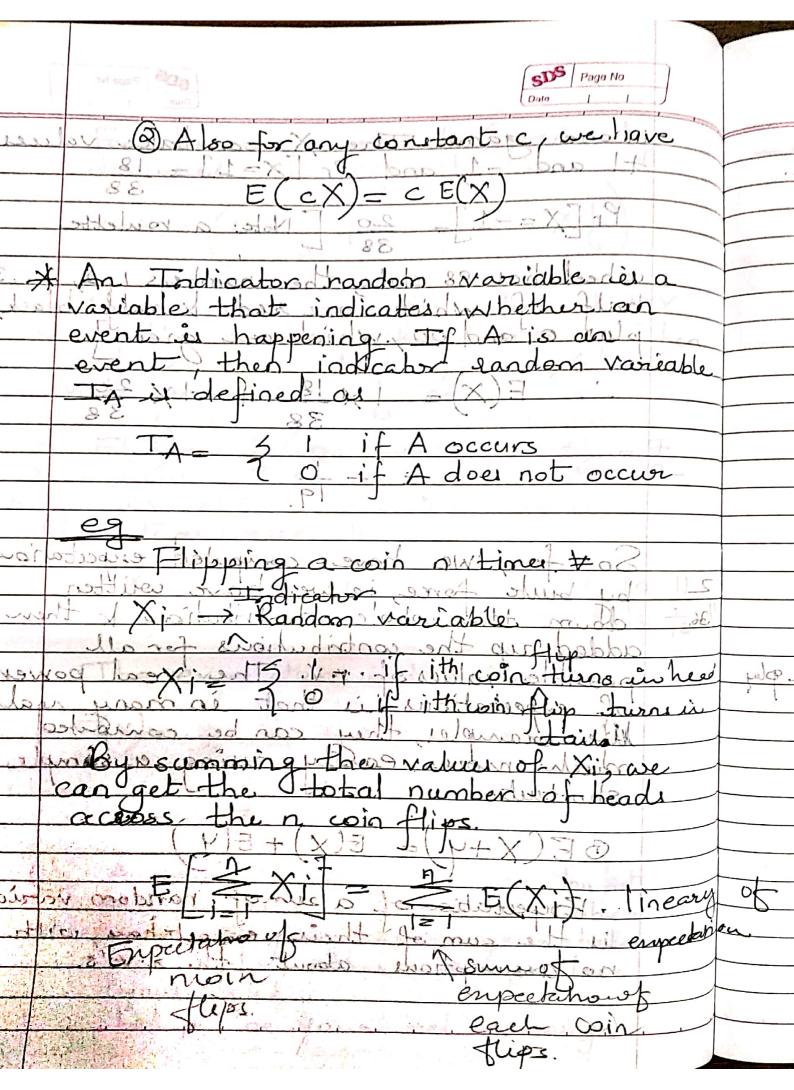
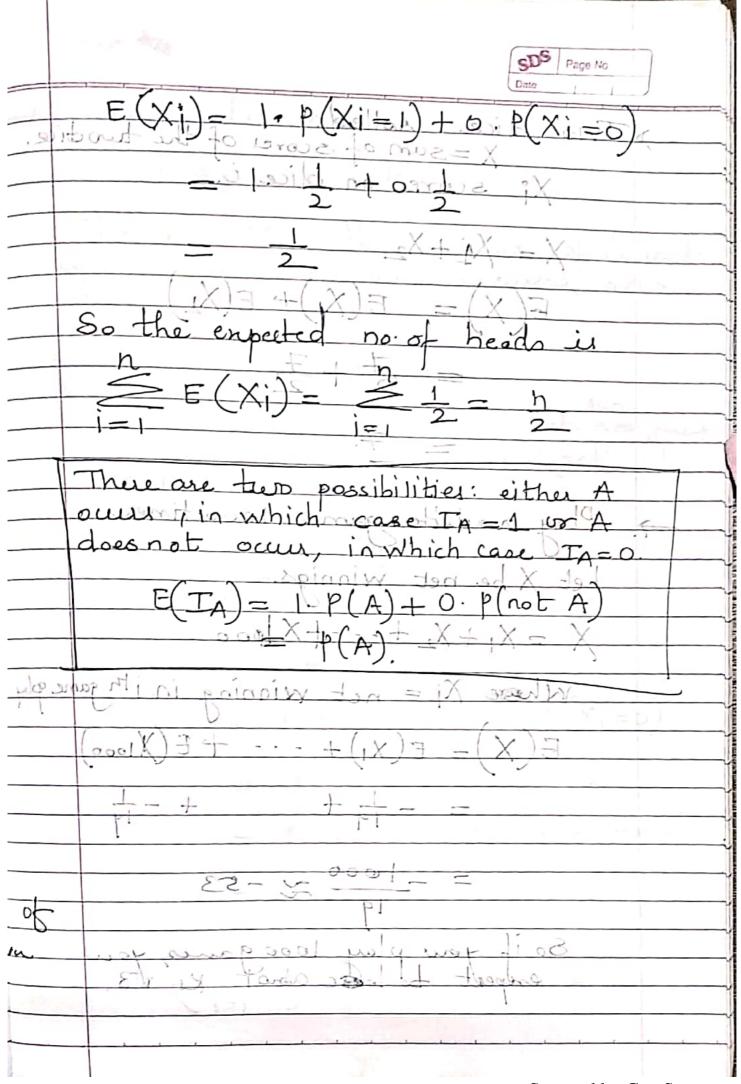
	Dato
	X.
	Randomized Algorithm
	To coin flipping example, the number
11	To coin flipping oxamplips is
	of Heads up ho continteger between of course, X is an integer between of ond o, and if the coin is fair.
	O and o, and if
1	Question: The homeworks of 20 students
	Question: The homeworks buffled and are collected in randomly shuffled and
	are collected in randomly sharp many returned to the students Has many students receive their own homework?
	students receive the
	To answer this question, we fint need
	of the homeworks each with probability
	12 (+a) (0 - (a) (b) (1)
	201
	To make life simple, let's also shrink
	the class size down to 3 for a while
	The following table gives a complete
199	listing of the sample space (of size
H SEED	3 = 8) I together with the omergonding
	value of X for each sample point.
	permutation, Value of X
	123
	132
	213
	312
	321

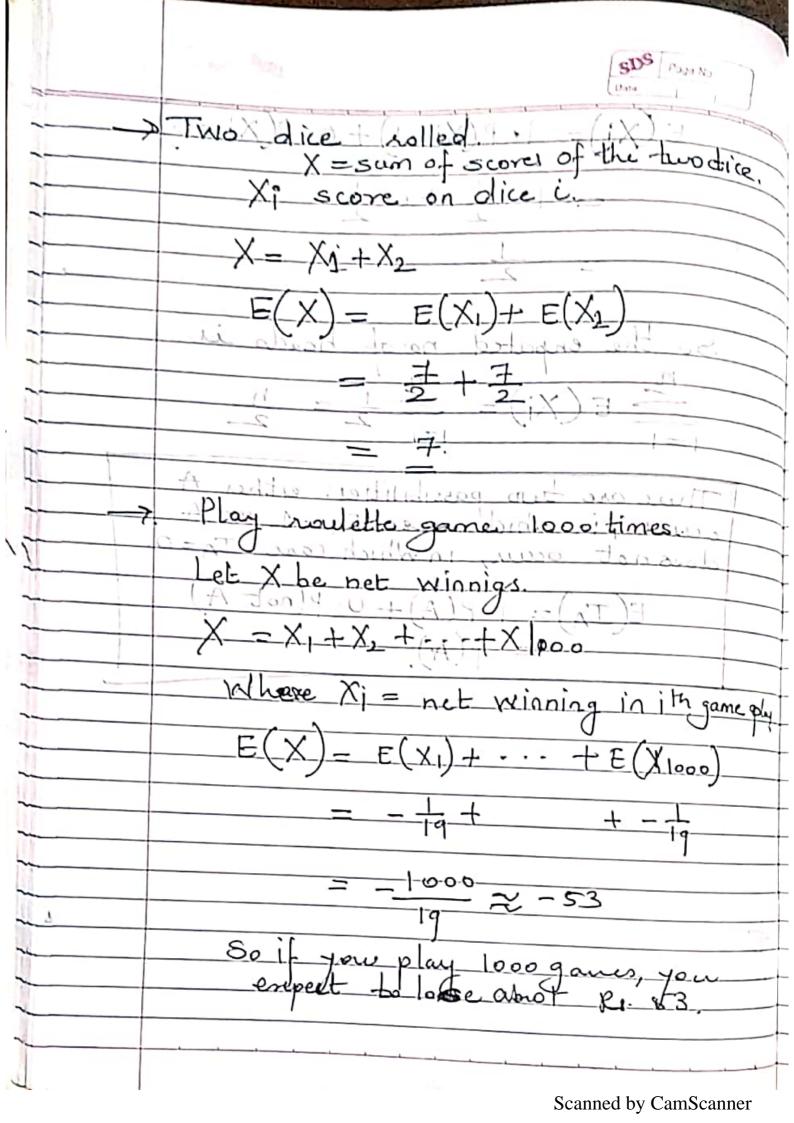


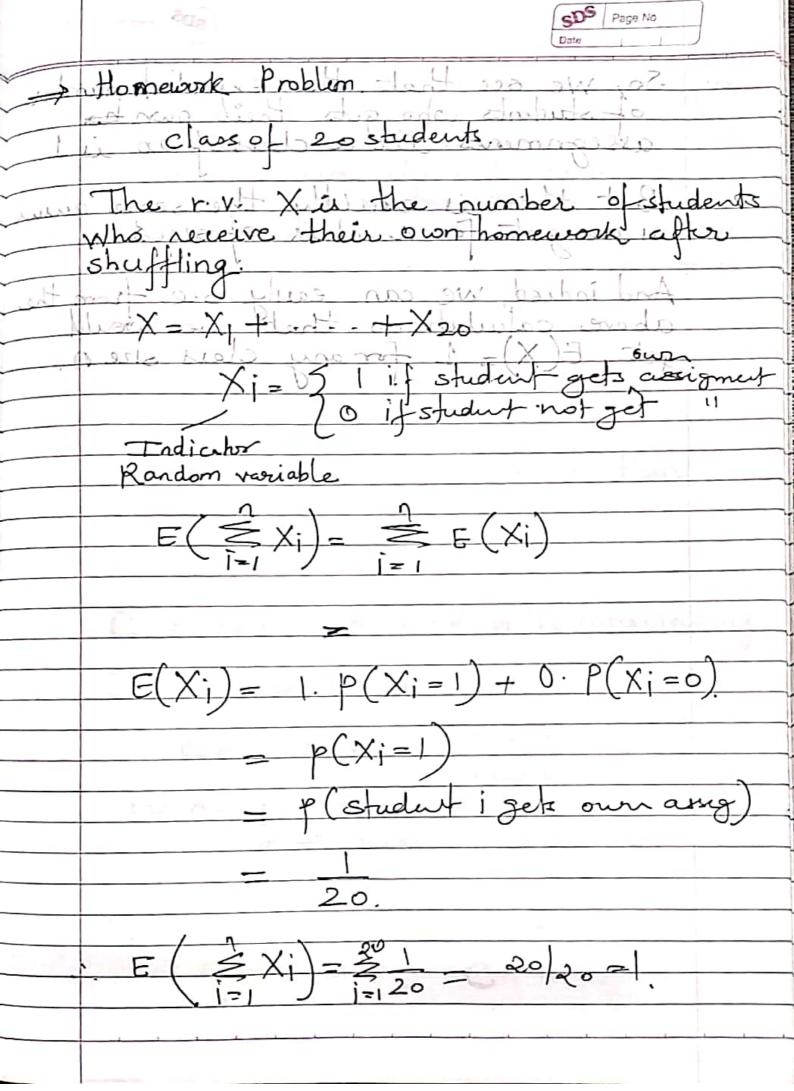










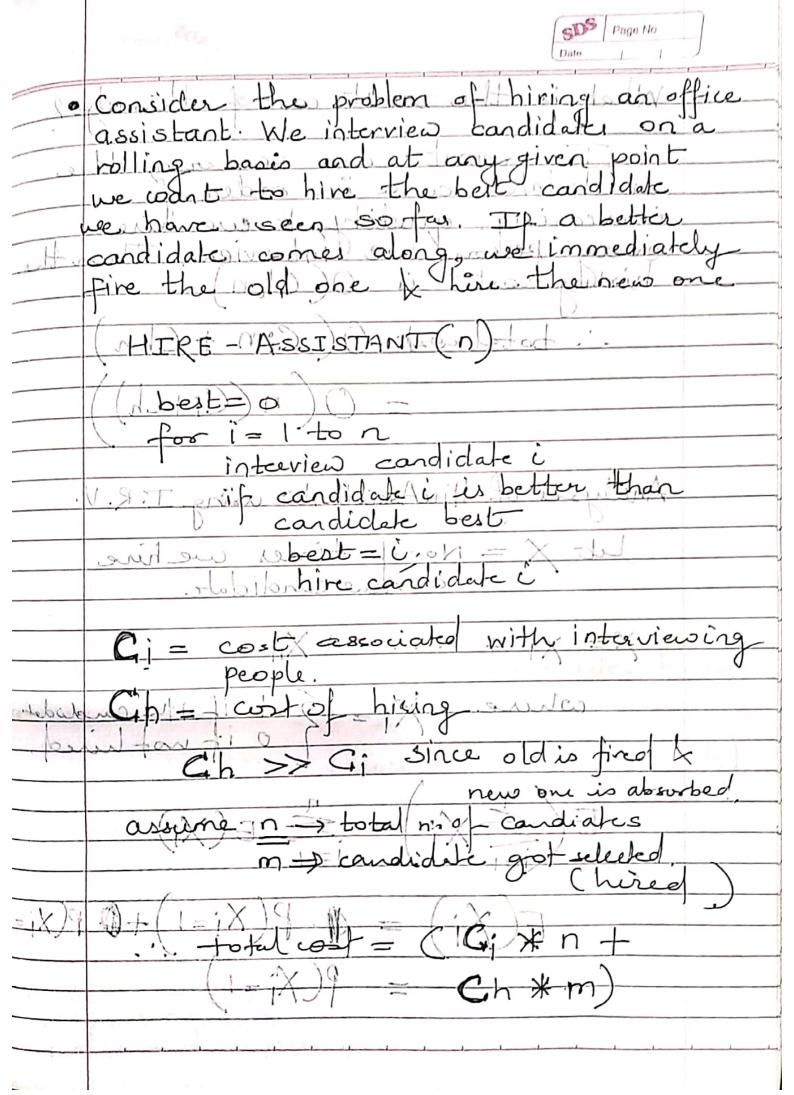


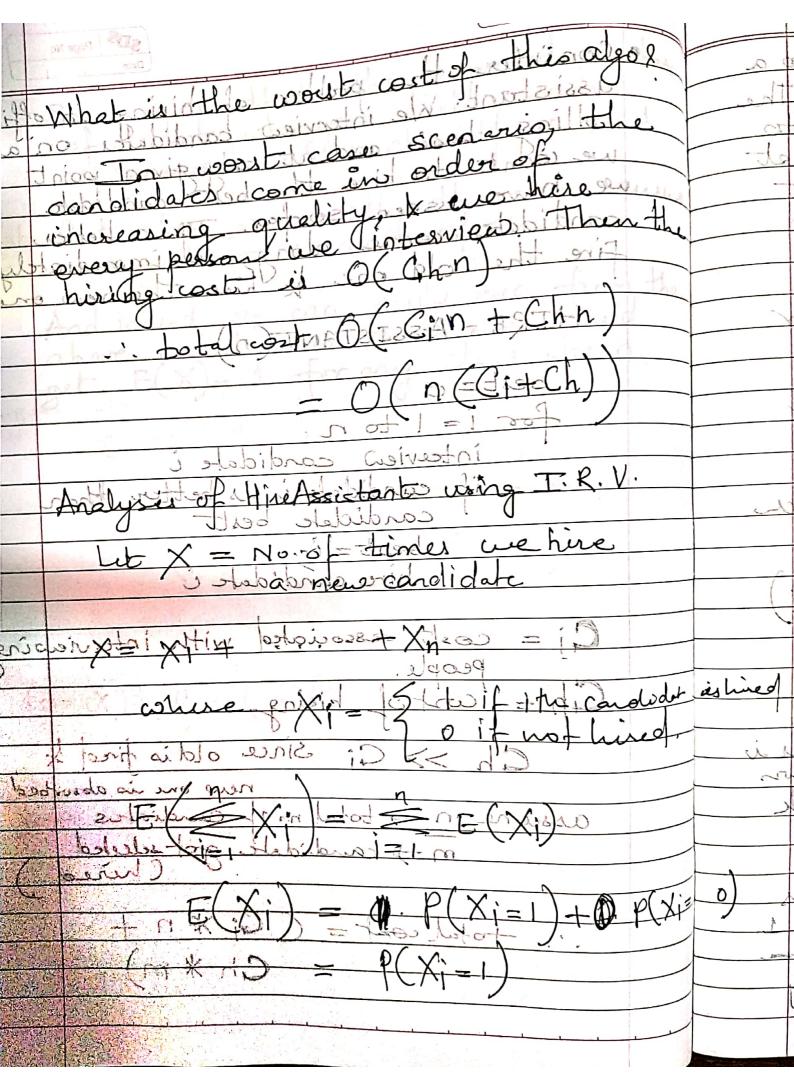
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So. We see that the expected number of students who gets their own to a segments in a class of so is I.

But then is exactly the same and as as got for a class of size 3. I.

And indeed, we can early see from the above calculations that we would get E(X) = 1 for any class size n.





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(Candidate is is here to Candidate is is shared wohund with candidates to theory in the