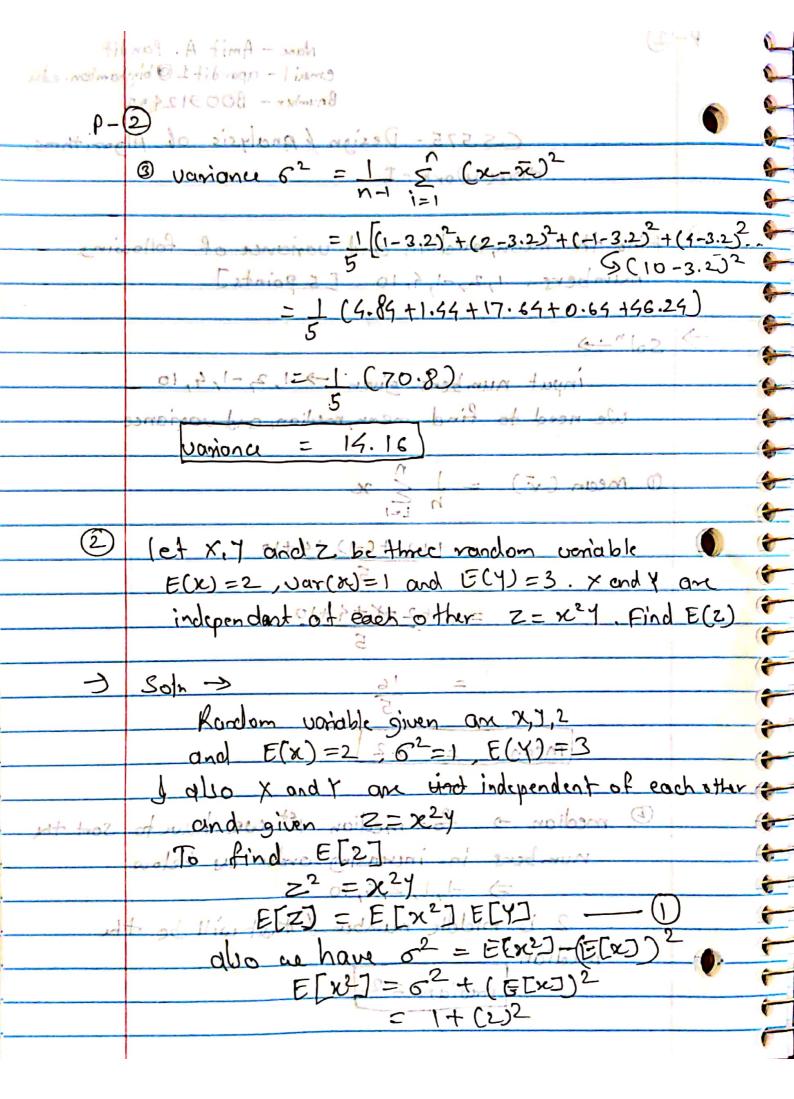
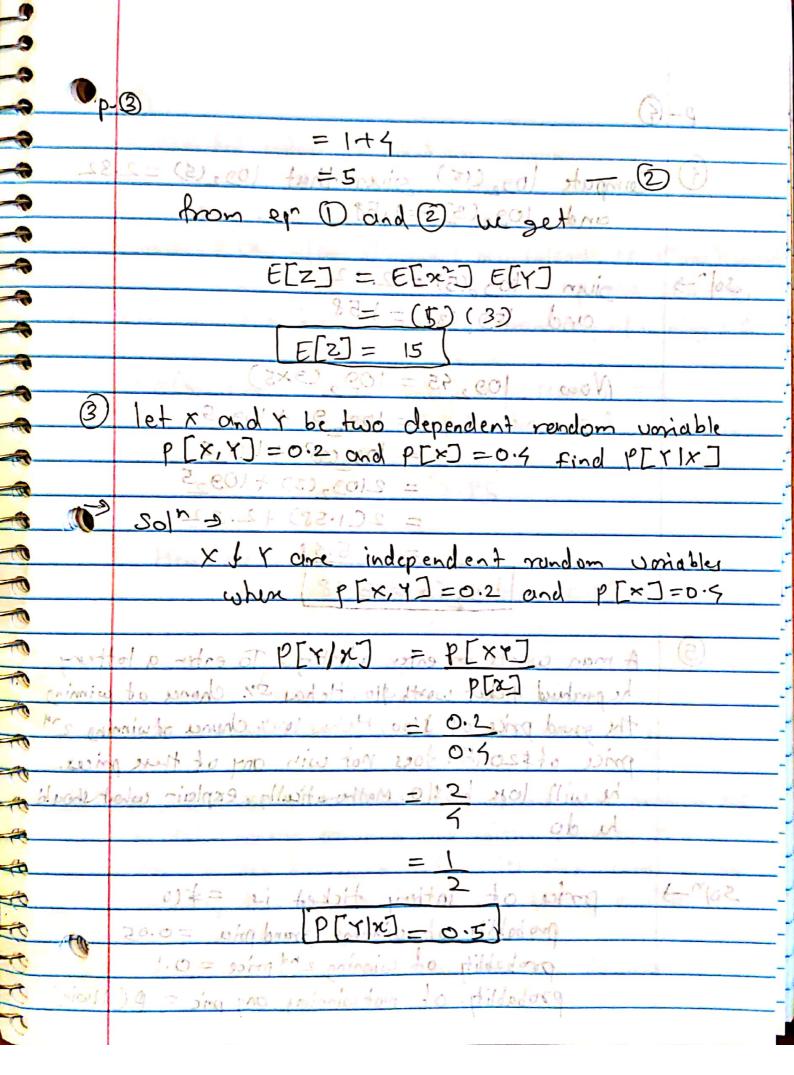
P-(1) Nane - Amit A. Pandit cmail - apandit 1 @ bighamton. edu Pak-15-09-2021 Brumber - B00912133 CS 575 - Design / Analysis of Algorithms. Home Work-I - 2 word D) Find the mean, median and variance of following Cs. 5 0 numbers . 1,2,-1, 4, 10 . [5 points] 1 (4-89+1)-54+17-64+0-69+5624 501 m-102 input numbers siven 1-21, 2, -1, 4, 10 We need to find mean, median, and variance O mean (r) = 1 & x les x,7 ofthis (1-2+1-4) readon vendos y book &= (1) =1 but 15(4) =3 y and y (3)3 bin 1 x = 5 = xx+2 xx+10 trab mybri 5. 1 x 40 mario (doing moloo) utto dono to tockonquebi bois mo Y bio i olle to 1 median -> for median 1st we have to sort the numbers in increasing orderious below => -1,1,2,4,10 2 is middle number of that will be the median median = 21 1

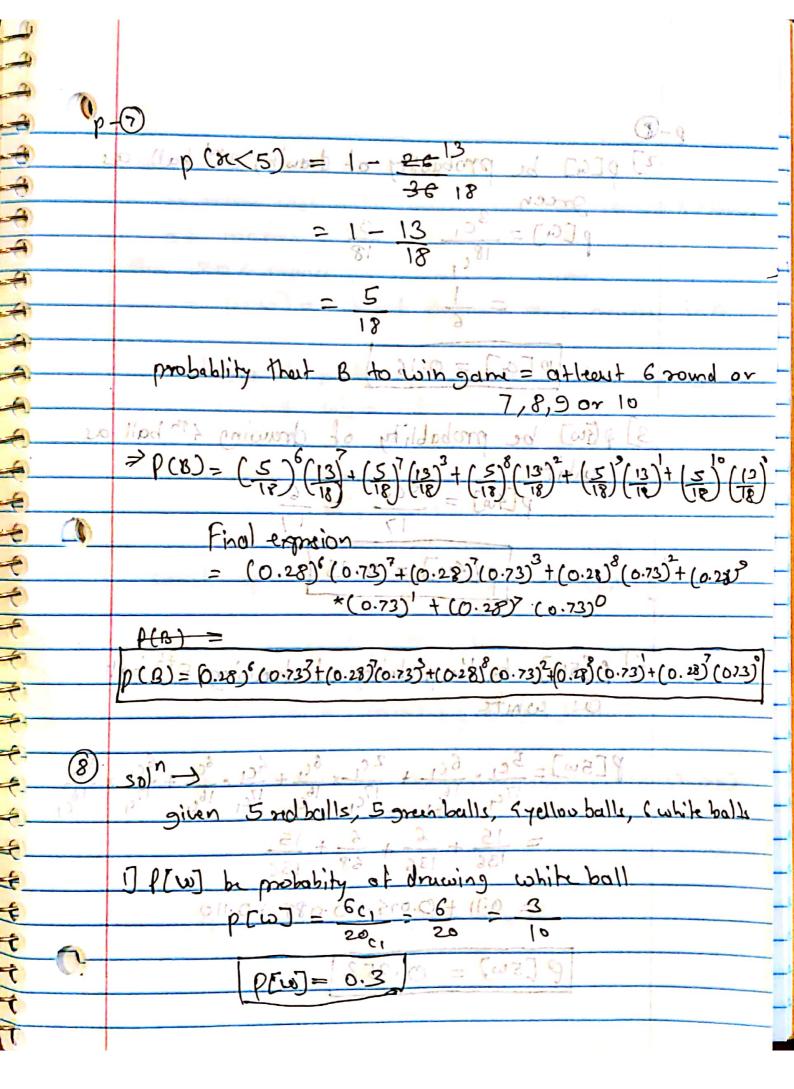




P-3 Compute (09_ (15) sinn that (09_(5) = 2.32 and 1092(3)=1.58 () 50/ m siun los e(5) = 2.32 and 100 2(3) = 1.58 Now 109, 45 = 109, (9x5) 109 25 + 109 25 > 0 = [x] = log (352 + log 5 = 2109, (3) + 109,25 2(1.58) +2.32 tooks = hai 5.5% y 109,55 = 5.18 (5) A man wants to enter a lottery. To enter a lottery he parehied ticket worth 910. He has 5% Chance of winning the grand price of \$100. He has 100% chance of winning 2rd price of \$20. ithe does not win any of there prices. he will lose his \$10. Mathematically. explain what should 50/n-7 price of lottery ticket is = \$10 probablity of winning grand price = 0.05 probablity of winning 2nd mice = 0.1 probablity of wotwinning ong pric = P(Nwin)

0-6 P-E expected value of what will hoppen and ECK) = Exp(x) here is the net value north 201 = (prob of winning 15t price) (6100-10)+p (2nd price) (20-100) -9 (01-0) (nimber prison itaices equal number of -9 got har true known scambt probablity of wirning = 1 noition trope to so lime and >p(grand pria)+p(2nd pria)+p(Nwin) =1 0.5 + 00 + p (N win) p(Nwin) = 1-0.15 (> 0) p(wais) = 10.85 Hen auget E(x) = 0.05 x507 0.1 x 10 - 0.85 x 10 4.5 + 1 - 8.5 2 britished enter himwill to be too ke ashould not play A druk person ist walking on road with probling 0-6 he take outp forward and with probling 0.4 he take a step backword after 10 step, what is the probling that he with is cot his starting position Soint probablity of drunk person tak step tonsord p (fud) = 0.6

6 mobablity of drank person take step bookward p (backword) = 0.4 after 10 step probabily to be at stort position of the person takes equal number of forward Step and equal number of backward step then he will be at start position 27.0(0) (0.6) (0.4) S151, (7) probability that is win the game D(x<5) =1-P $p(\sim < 5) = \{(1,5),(1,0),(2,4),(2,5),(2,6),(2,5),(3,4),(3,5),(3,0),...,(6,6)\}$



P-B 2] peal be probablity of drawing 3rd ball as p[a] = 0:16 3) p(5w) be probablity of drawing 4th ball as p[4w] = 0.35 4) P[5w] be the probabily of drawing 5th ball or white = 011 + 0.014 + 0.088 + 0.110 P [5w] = 0.352

P- 0 (0)-9 501 7 if team last both matches then there is 80% chance of loosing 3rd game tod to oly Thin 20% chance of winning 3rd game p[w] = 0.2 lif previous two metaly lost it one of match is won and after one last 19401 pro mp [wo] =1035 nias llies es 02 \$(4x5) = \$20 it both = The find matches in a world of e0=[w]q 10 empo col too fol wor Sample space = {(w, w); (w, L), (L, w), (L, L) } probabity of winning 2rd match = p(37)==== (0.2) 4=1 (0.5) 4 (0.5) 4 (0.5) = (6.25) (0.2) + (0.25) (0.5) + (0.25) (0.5) + (0.25) (0.9) 0.05+0.25+0.22500 vito 0.525 75- 1 probabity of winning the next mater P[w] = 0.525

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