(0)	An instructor has given a short quiz
	consisting of two parts. For a randomly
phoch	selected student; let X be the number
	of points earned on the first part and Y
	the number of points earned on the second
11/9	part. Suppose that the joint pmf of x and
	y is given in the table Delow.
	2 Milliote of the Adam Vintrone
Le la	p(x(4)) 0 5 10 15 B(x)
	0 -02 .09 .07 -10 0.5
	X 5 · 04 · 15 · 20 · 10 0 49
	1 19 % (MINE) MOD with battage regard
	10.01 .12.14 .01 0.31
31-6	Py(4) 0.07 0.36 0.36 0.21
	Man de la company de la compan
(a)	If the score recorded in the grade book
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	is the total number of points earned on the
(09/4	two parts, what is the expected recorded
mani .d r	is the total number of points earned on the two parts, what is the expected recorded score (E(X+Y))?
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mani .d r	is the total number of points earned on the two parts, what is the expected recorded score $(E(X+Y))$? $E(X+Y) = \sum_{i=1}^{N} (X+Y) p(X+Y)$ $= (0+0) \times p(0+0) + (0+5) p(0+5) + (0+10) p(0+0)$
mani .d r	is the total number of points earned on the two parts, what is the expected recorded score $(E(X+Y))$? $E(X+Y) = \sum (X+Y) p(Y+Y) p(Y+Y)$ $= (0+0) \times p(0+0) + (0+5) p(0+5) + (0+10) p(0+0) + (0+15) p(0+15) + (5+0) p(5+0) + (5+5) p(5+5) + (6+10) p(5+10) + (5+15) p(5+15) + (10+0) p(10+0)$
mani .d r	is the total number of points earned on the two parts, what is the expected recorded score $(E(X+Y))$? $E(X+Y) = \sum_{i=1}^{n} (X+Y) p(X+Y) p(X+Y)$ $= (0+0) \times p(0+0) + (0+5) p(0+5) + (0+10) p(0+10) + (0+15) p(0+15) + (5+5) p(5+5)$
mani .d r	is the total number of points earned on the two parts, what is the expected reworded score $(E(X+Y))$? $E(X+Y) = \sum_{i=1}^{n} \sum_{j=1}^{n} (x+y) p(x+y) p(x+y)$ $= (0+0) \times p(0+0) + (0+5) p(0+5) + (0+10) p(0+0)$ $+ (0+15) p(0+15) + (5+0) p(5+0) + (5+5) p(5+5)$ $+ (5+0) p(5+10) + (5+15) p(5+15) + (10+0) p(10+0)$ $+ (10+5) p(10+5) + (10+10) p(10+10) + (10+15) p(10+15)$
mani .d r	is the total number of points earned on the two parts, what is the expected recorded score $(E(X+Y))$? $E(X+Y) = \sum \sum (X+Y) p(X+Y) p(X+Y)$ $= (0+0) \times p(0+0) + (0+5) p(0+5) + (0+10) p(0+0) + (0+15) p(0+5) + (5+5) p(5+5) + (5+6) p(5+6) + (5+6) p(5+6) + (10+6) p(10+6) + (10+6) p($
mani .d r	is the total number of points earned on the two parts, what is the expected recorded score $(E(x+y))$? $E(x+y) = \sum \sum (x+y) p(x+y)$ $= (0+0) \times p(0+0) + (0+5) p(0+5) + (0+10) p(0+0)$ $+ (0+15) p(0+15) + (5+0) p(5+0) + (5+5) p(5+5)$ $+ (6+0) p(5+10) + (5+15) p(5+15) + (10+0) p(10+0)$ $+ (10+5) p(10+5) + (10+0) p(10+0) + (10+15) p(10+15)$ $= (0.1 + 0.6) + 6/3 + 0.2 + 0.15 + 0.2 + 0.25$
mani .d r	is the total number of points earned on the two parts, what is the expected recorded score $(E(X+Y))$? $E(X+Y) = \sum \sum (X+Y) p(X+Y) p(X+Y)$ $= (0+0) \times p(0+0) + (0+5) p(0+5) + (0+10) p(0+0) + (0+15) p(0+5) + (5+5) p(5+5) + (5+6) p(5+6) + (5+6) p(5+6) + (10+6) p(10+6) + (10+6) p($

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(b) If the maximum of two scores are
    recorded, what is the expected score?
   E(Max(x_1y)) = \sum_{y \in Yy} \sum_{y \in Yy} max(x_1y) \times p(x_1y)
     = max (910) x 0.02 + max (015) x 0.06 +
        max (0,10) x0.02 + max(0,15) x0.10 +
    max (5,0) x 0.04 + max (5,5) x 0.15+
       max (10,15) x 0.01
      = 0x0.01 + 5x0.06 + 10x0.01 + 15x0.10 +
        5 x 0'04 + 5 x 0'15 + 10 x 0'20 + 15 + 0'10 +
        10 x001 + 10 x015 + 10 x014 + 15 x001
                 E - ploch ( p+ 50)
(c) Calculate convariance of x and y.
         = E(xxy) - E(x) \times E(y)
 : E(xy) = ZZ(3cy)(p(x,y)) = (0x0)(0.02) + (5x0)(0.06)
        +--- (5x0) (0.04) + (5x5)
                          (0.12) + ---- (10x0) (0.01)
         place (40+907 (4) + (10×5) (0·15) + --
 =: E(x) = \sum x P_{k}(x)
      = 6 \times 0.2 + 5 \times 0.49 + 10 \times 0.31
      180715.55 PNIA DOUT COID 940299
= E(Y) = ZyxPy(y)
   - 0x0.07 + 5x0.36 + 10x0.36 + 15x0.21
(d) Calculate correlation of x and y
       = cov(x, y) -> +rom c.
          6x * 64
      6x = VE(x2) (E(x))2
                              E(Y) = Z(X)Py(y)
    E(X2) = Z(X2)(Px(00))
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