HW7 zl9901

1 a) For C=0, $\emptyset = \frac{P(A,B)-P(A)P(B)}{\sqrt{P(A)[1-P(A)]P(B)[1-P(B)]}} = \frac{0-0.25*0.25}{\sqrt{0.25*(1-0.25)*0.25*(1-0.25)}} = -0.33$

For C=1, $\emptyset = \frac{P(A,B)-P(A)P(B)}{\sqrt{P(A)[1-P(A)]P(B)[1-P(B)]}} = \frac{0.25-0.25*0.25}{\sqrt{0.25*(1-0.25)*0.25*(1-0.25)}} = 1$

For C=0 or C=1, $\emptyset = \frac{P(A,B)-P(A)P(B)}{\sqrt{P(A)[1-P(A)]P(B)[1-P(B)]}} = \frac{0.0625-0.25*0.25}{\sqrt{0.25*(1-0.25)*0.25*(1-0.25)}} = 0$

b) If coefficient==0, A and B are independent.

If coefficient<0, A and B are negatively related.

When two variables have a positive correlation, it means the variables move in the same direction. This means that as one variable increases, so does the other one.

If coefficient>0, A and B are positively related.

In a negative correlation, the variables move in inverse, or opposite. In other words, as one variable increases, the other variable decreases.

2 Please see the PDF file attached to this report.