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Table

Description automatically generated

1. Which one shows all the features are independent? Why?

**Matrix B, since B has all non-diagonal features are 0.**

1. Which one shows some, but not all the features are independent? Why?

**Matrix C, since C has some non-diagonal features as 0, but not all.**

1. Which one show that features a and b are interdependent? Why?

**Matrix A and C, because both <a, b>, <b, a> in both matrixes are non-zero, which mean they are interdependent**

4.

**Euclidean Distance (<3, 8, 2>, <1, 4, 8>) =**

5.What is the class of the test sample if k=3?

**Cat**

6.Why?

**First shortest distance is cat (3.9), next one is cat (7.5),**

**third one is Dog (12.5), since 2/3 are cats, so the class of the test sample should be classified as cat.**