We have data from the questionnaire survey and objective testing with two attributes(acid durability and strength) to classify whether a special paper tissue is good or not. Here are 4 training examples.

X1=Acid Durabilty X2=Strength Y=Classification

7 7 Bad

7 4 Bad

3 4 Good

1 4 Good

Now the factory produces a new tissue that pass laboratory test with X1= 3 and X2= 7. Without another expensive survey can you guess what the classification of this new tissue is using KNN? Explain your approach.

Hint: Estimate a K value, Calculate the euclidean distance between the new instance and all the training examples and determine nearest neighbour based on Kth minimum distance.