KNN COMPUTER ASSIGNMENT RESULTS

ROLL NO - 17EC10055

NAME - SHUBHAM MAHESHWARI

- Train and test set was made by randomizing the indices and splitting cancer_dataset.csv in the ratio 80:20.
- Shape of training set and test set used:
  - Train_Shape: (559, 10)
  - Test_Shape: (140, 10)
- Best Accuracy obtained in case of K=5 and 7 for Euclidean distance metric = 97.142%
- Accuracies computed for K=1,3,5,7 and distance metrics 'Euclidean distance','Normalized Euclidean distance' and 'Cosine Similarity' are as follows:

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Accuracy when K = 1  and distance metric is  Euclidean = 0.9642857142857143
Accuracy when K = 1  and distance metric is  Normalized Euclidean = 0.8857142857142857
Accuracy when K = 1  and distance metric is  Cosine Similarity = 0.9071428571428571
Accuracy when K = 3  and distance metric is  Euclidean = 0.9642857142857143
Accuracy when K = 3  and distance metric is  Normalized Euclidean = 0.8928571428571429
Accuracy when K = 3  and distance metric is  Cosine Similarity = 0.8857142857142857
Accuracy when K = 5  and distance metric is  Euclidean = 0.9714285714285714
Accuracy when K = 5  and distance metric is  Normalized Euclidean = 0.9071428571428571
Accuracy when K = 5  and distance metric is  Cosine Similarity = 0.9142857142857143
Accuracy when K = 7  and distance metric is  Euclidean = 0.9714285714285714
Accuracy when K = 7  and distance metric is  Normalized Euclidean = 0.9071428571428571
Accuracy when K = 7  and distance metric is  Cosine Similarity = 0.9142857142857143
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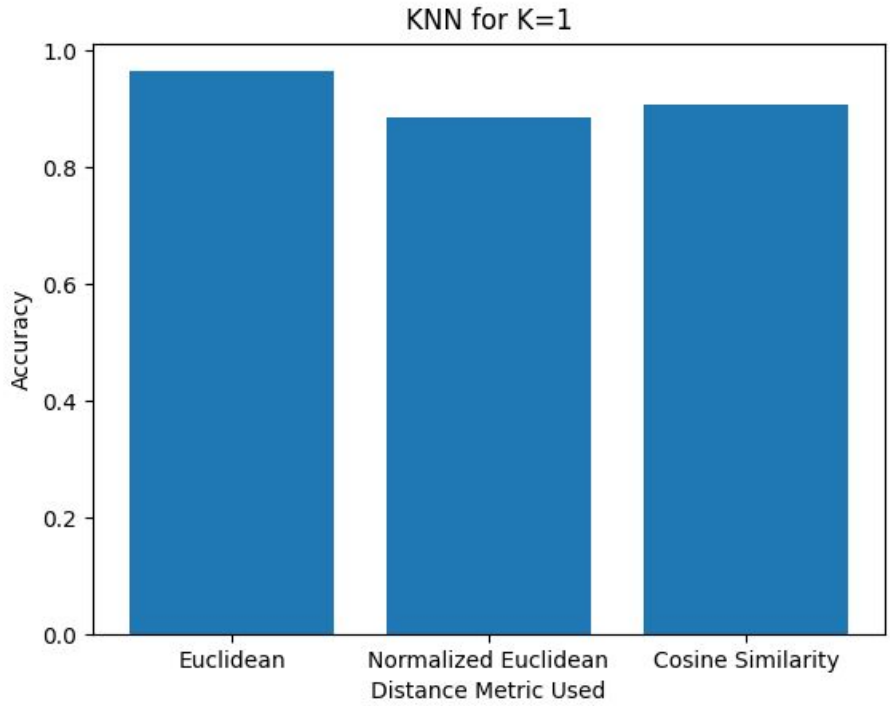
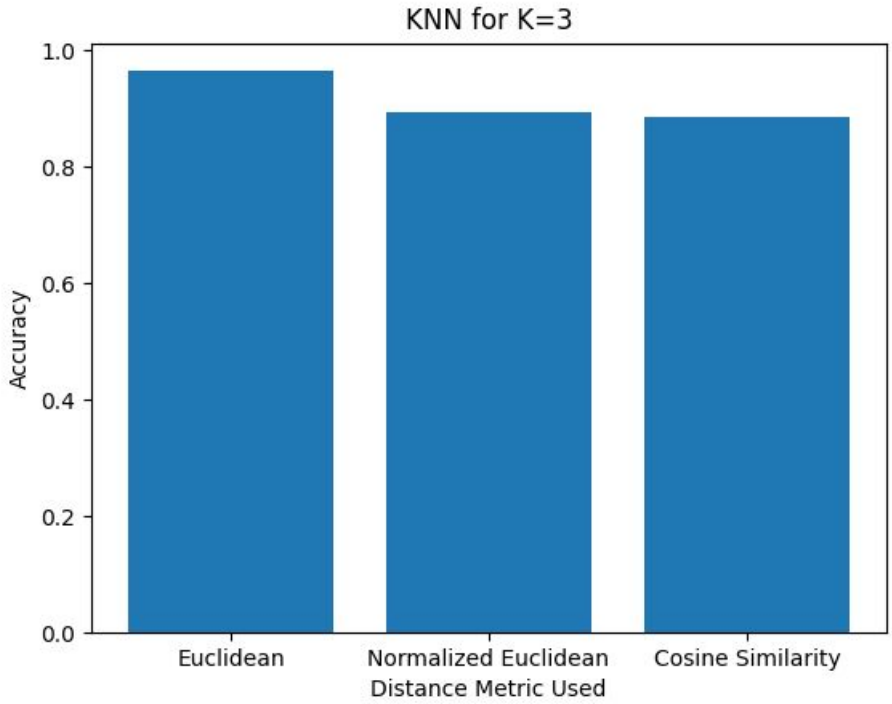
BAR PLOTS TO COMPARE THE PERFORMANCE OF HYPERPARAMETERS

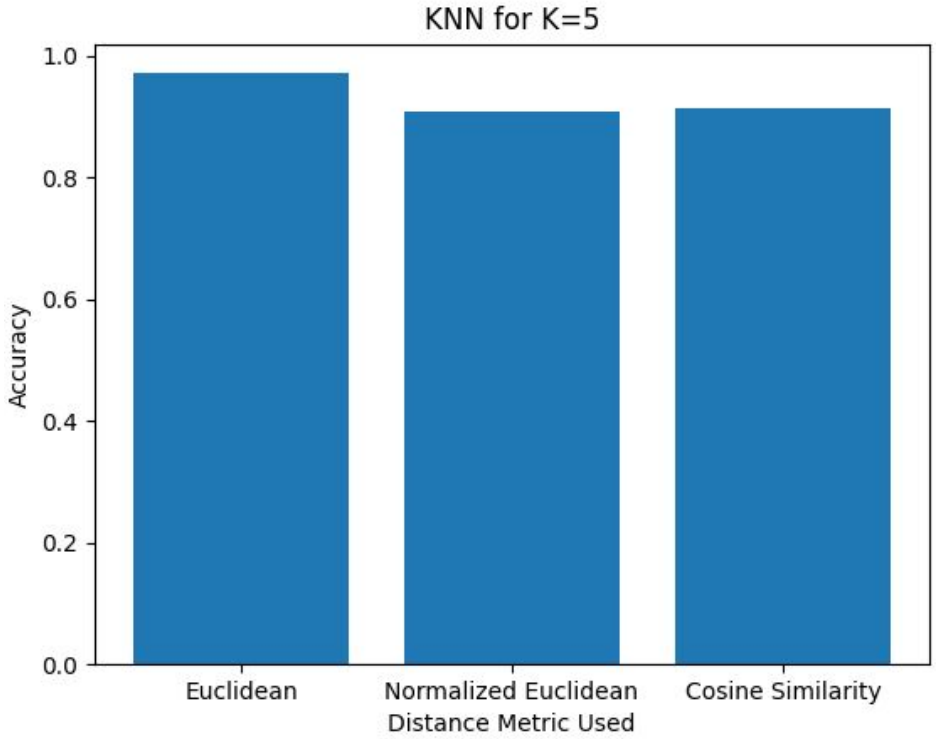
i)



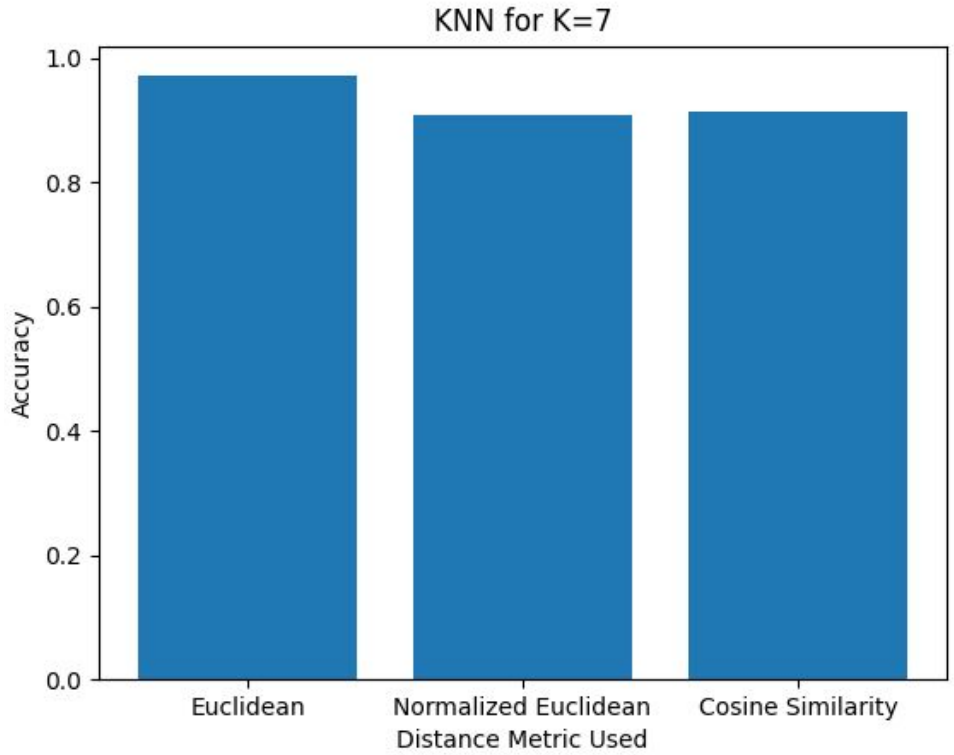
ii)



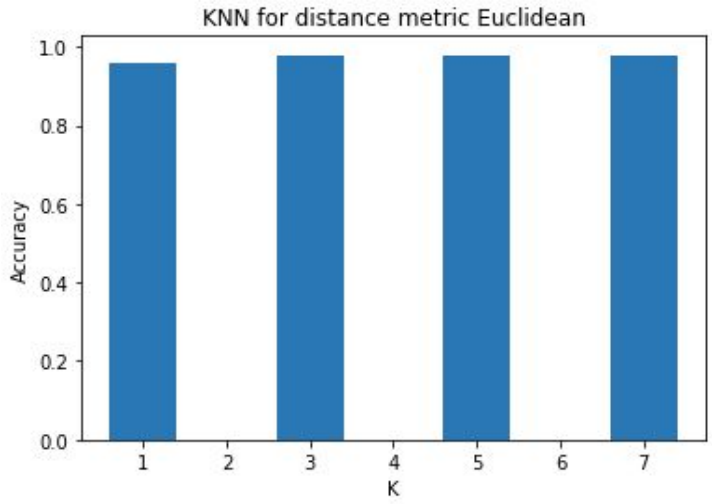
iii)


KNN for K=5
1.0
0.8
0.6
0.4
0.2
0.0
Accuracy
Euclidean
Normalized Euclidean
Cosine Similarity
Distance Metric Used

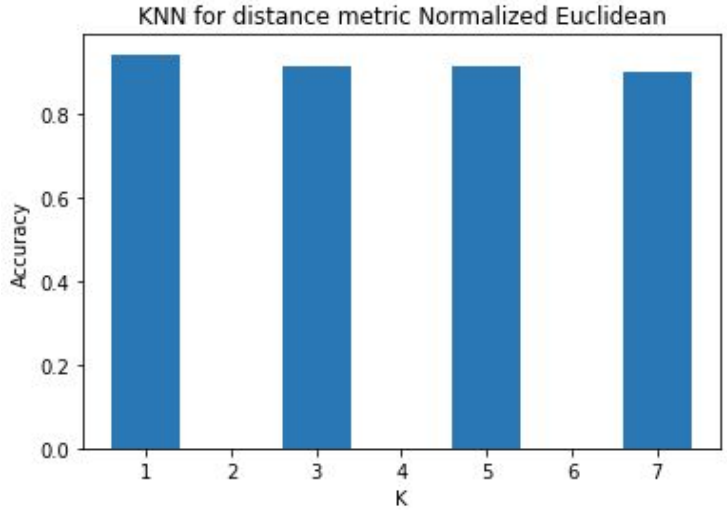
iv)


KNN for K=7
1.0
0.8
0.6
0.4
0.2
0.0
Accuracy
Euclidean
Normalized Euclidean
Cosine Similarity
Distance Metric Used

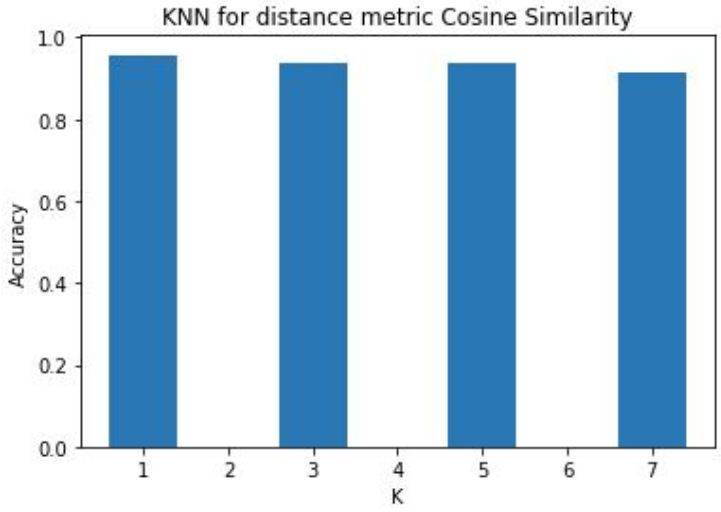
(v)


KNN for distance metric Euclidean
Accuracy
K
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
6
7

vi)


KNN for distance metric Normalized Euclidean
Accuracy
K
0.0
0.2
0.4
0.6
0.8
1
2
3
4
5
6
7

vii)


KNN for distance metric Cosine Similarity
Accuracy
K
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
6
7