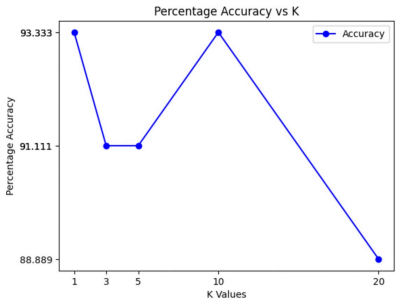
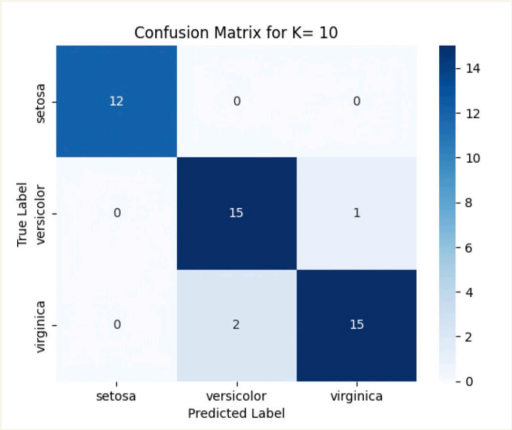
EXPERIMENT 1

REPORT: EFFECT OF VARYING K IN KNN_NORMAL ON TEST DATA:
Accuracy is coming out to be largest for K= 1 and K=10 ; when analysed using KNN_Normal
Although, I believe selecting K= 10 will a better option as it is neither too big or nor too small value
Selecting K= 1 just based upon these results can be very risky as it will be very sensitive to noise and may lead to significan dip in performance of the algorithm in case of some other test samples

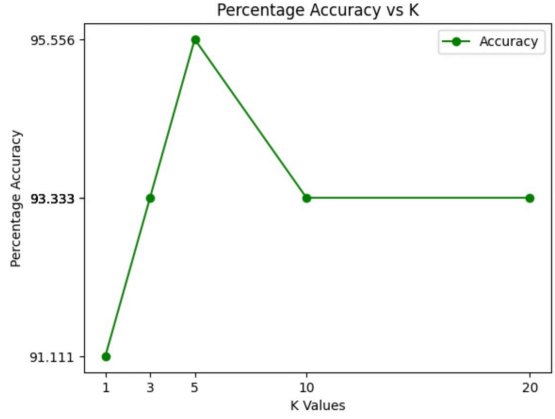
Optimum value/ value's of hyperparameter K = [1, 10]

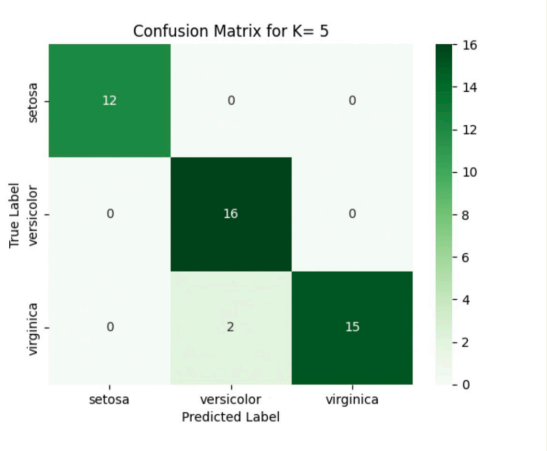




EXPERIMENT 2

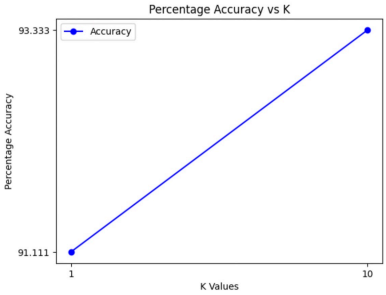
Optimum value/ value's of hyperparameter K = [5]



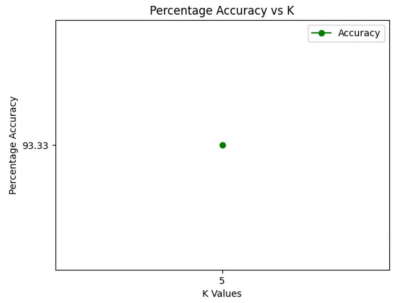


EXPERIMENT 3

REPORT: VARIATION IN PERFORMANCE OF KNN_NORMAL AFTER NOISE
As it was expected, after adding noise, the results for k=1 dipped down in accuracy.
This is the drawback of choosing a model that makes decision on the basis of less neighbours
But, the accuracy for k= 10 is still entact as it is not sensitive to presence noise samples
as significant number of neighbours are considered before making any decision



REPORT: VARIATION IN PERFORMANCE OF KNN_WEIGHTED AFTER NOISE
The performance has dropped a little bit (in terms of accuracy) as expected because of introduction of noise samples



EXPERIMENT 4

REPORT: CURSE OF DIMENSIONALITY
Considering only sepal parameters, petal parameters, width parameters, or length parameters individually might lead to
a reduction in dimensionality, potentially simplifying the analysis. However, such reduction may result in the loss of valuable information.
We should give less importance to less important parameters and higher weightage to effective and meaningful parameters. This is the real
problem i.e. selecting appropriate number of QUALITY features

IT SEEMS FROM THE ANALYSIS THAT CONSIDERING WIDTH PARAMETERS ONLY GIVES A LOT OF INFROMATION ABOUT THE DATA AND SAVES THE COMPUTATION TOO!