Artificial Intelligence Laboratory

1. Demonstrate the training, testing and prediction of machine learning models for Play Cricket Dataset using below algorithms. Tabulate accuracy, precision, Recall and F1-score.
    a. Decision Tree
    b. Random Forest
    c. SVM
    d. Naïve Bayes
2. Apply text pre-processing techniques like stemming, stop-words removal and removal of punctuations using NLTK Packages.
3. Demonstrate the training, testing and prediction of machine learning models for Yelp Restaurant Dataset using below algorithms. Tabulate accuracy, precision, Recall and F1-score.
    a. Decision Tree
    b. Random Forest
    c. SVM
    d. Naïve Bayes
4. Implement the below algorithms given a weighted graph and heuristic values.
    a. Depth First Search
    b. Breadth First Search
    c. Best First Search
    d. A*
5. Implement the genetic algorithm in python for function optimization.
   Let consider that we have an equation, $f(x) = -x^2 + 5$. We need the solution for which it has the maximum value and the constraint is $0 \leq x \leq 31$. To select an initial population use the probability 0.2.