**EXPT 3 ALGORITHM**

1. Import the `ggplot2` library.

2. Use the `ggplot` function to specify the dataset (iris) and aesthetics (x and y axes).

3. Add points to the plot using `geom\_point`. The `shape` aesthetic is used to differentiate points based on the species of iris, and the `color` aesthetic further distinguishes them by species.

4. Overlay regression lines on the scatter plot using `geom\_smooth` with the linear regression method ("lm").

**EXPT 4 ALGORITHM**

1. Import the `ggplot2` library.

2. Load the Titanic dataset using the `data(Titanic)` function.

3. Convert the dataset into a data frame called `Titanic\_df`.

4. Create a histogram using `ggplot`.

5. Specify the data frame and aesthetics, where the x-axis represents the "Freq" variable.

6. Customize the histogram by setting the color to black and the fill color to green, with 30 bins.

**EXPT 5, 6, 7, 8 ALGORITHM(Venel thanne kandu pidicho MUHUHUHAHAHAH)**

**EXPT 9 ALGORITHM**

Bagging Algorithm:

1. Install and load the `ipred` package.

2. Load the Iris dataset.

3. Set the seed for reproducibility.

4. Build a bagged model (`bagged\_model`) using 50 bootstrap samples.

5. Make predictions on the same dataset.

6. Create and print a confusion matrix.

Boosting Algorithm:

1. Install and load the `gbm` package.

2. Load the Iris dataset.

3. Convert the `Species` variable to numeric.

4. Set the seed for reproducibility.

5. Build a boosted model (`boosted\_model`) with 100 trees, multinomial distribution, depth 3, and shrinkage 0.1.

6. Make predictions on the same dataset (probability estimates).

7. Convert predicted probabilities to labels.

8. Create and print a confusion matrix.

**EXPT 10 ALGORITHM**

1. Install the "class" package.

2. Load the "class" library.

3. Load the Iris dataset.

4. Set a random seed for reproducibility.

5. Randomly sample 70% of the data for training.

6. Define the number of neighbors (k).

7. Perform k-NN classification on the test data.

8. Calculate the accuracy of the k-NN model by comparing predicted species with actual species.

**EXPT 11 ALGORITHM**

1. Install the "e1071" package.

2. Load the "e1071" library.

3. Load the Iris dataset.

4. Split the dataset into training and testing sets (80% training, 20% testing).

5. Train an SVM classifier with a radial kernel and cost parameter.

6. Make predictions on the test data using the SVM model.

7. Evaluate the model's performance by creating a confusion matrix.

8. Calculate the accuracy of the SVM model using the confusion matrix.