

```
---
title: "IRIS FLOWER CLASSIFICATION"
author: "Anusha preethi"
output: html_notebook
---

```{r}
#Install and Load Necessary Packages:

install.packages(c("tidyverse", "caret"))
library(tidyverse)
library(caret)

```

```{r}
#load the data

Load the dataset with correct file paths
train_data <- read.csv('C:\\Users\\hp\\Downloads\\IRIS.csv')
test_data <- read.csv('C:\\Users\\hp\\Downloads\\IRIS.csv')

```

```{r}
#explore the data

head(train_data)
summary(iris)

```

```{r}
#data preprocessing

sum(is.na(iris))

```

```{r}
#Split the Data into Training and Test Sets:

set.seed(123)
train_index <- createDataPartition(iris$Species, p = 0.8, list = FALSE)
train_data <- iris[train_index,]
test_data <- iris[-train_index,]

```

```{r}
#Train a Machine Learning Model:

model <- train(Species ~ ., data = train_data, method = "rf", trControl = trainControl(method =
"cv", number = 5))
print(model)

```

```{r}
#Make Predictions on the Test Set:

test_predictions <- predict(model, newdata = test_data)

```

```{r}
```

```
#Evaluate the Model:

confusionMatrix(test_predictions, test_data$Species)

...

```{r}
# Combine test data with predictions
test_results <- test_data %>%
  mutate(Predicted_Species = test_predictions)

# View the first few rows
head(test_results)

...

```