**EXPERIMENT-5**

**Perform predictive analytics for customers behaviour in marketing and sales**

**Program:**

install.packages(c("dplyr", "caret", "randomForest"))

library(dplyr)

library(caret)

library(randomForest)

data <- read.csv("CustomerBehavior.csv")

head(data)

data$Gender <- as.factor(data$Gender)

data$ClickedAd <- as.factor(data$ClickedAd)

data$MadePurchase <- as.factor(data$MadePurchase)

data <- data %>% select(-CustomerID)

set.seed(123)

trainIndex <- createDataPartition(data$MadePurchase, p = 0.8, list = FALSE)

trainData <- data[trainIndex, ]

testData <- data[-trainIndex, ]

model <- randomForest(MadePurchase ~ ., data = trainData, ntree = 100, importance = TRUE)

print(model)

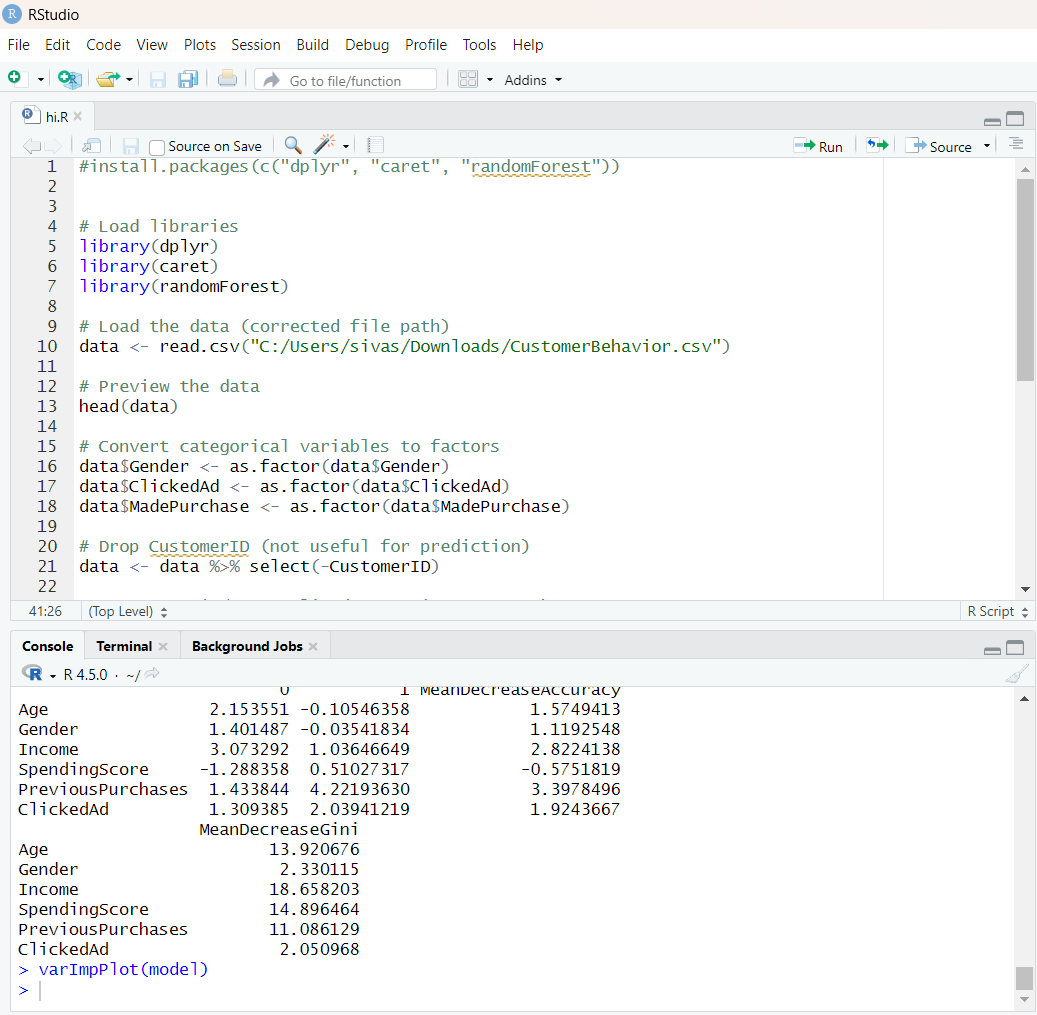
predictions <- predict(model, testData)

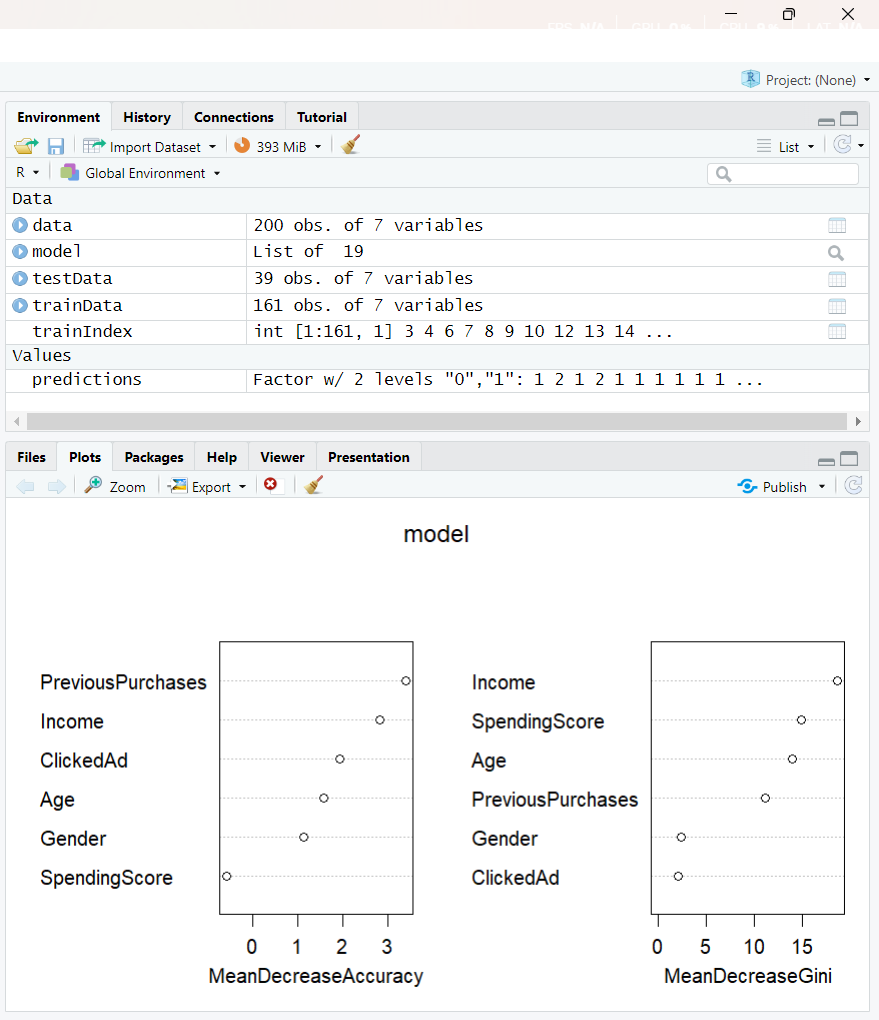
confusionMatrix(predictions, testData$MadePurchase)

importance(model)

varImpPlot(model)

**Output:**

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