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ASSIGNMENT 04

Code:

```
# Installing the package
```

```
install.packages("dplyr")
```

```
# Loading package
```

```
library(dplyr)
```

```
# Summary of dataset in package
```

```
summary(mtcars)
```

```
install.packages("caTools")
```

```
install.packages("ROCR")
```

```
library(caTools)
```

```
library(ROCR)
```

```
split <- sample.split(mtcars, SplitRatio = 0.8)
```

```
split
```

```
train_reg <- subset(mtcars, split == "TRUE")
```

```
test_reg <- subset(mtcars, split == "FALSE")
```

```
logistic_model <- glm(vs ~ wt + disp, data =  
train_reg, family = "binomial")
```

```
logistic_model
```

```
summary(logistic_model)

predict_reg <- predict(logistic_model, test_reg, type =
"response")

predict_reg

predict_reg <- ifelse(predict_reg >0.5, 1, 0)

table(test_reg$vs, predict_reg)

missing_classerr <- mean(predict_reg != test_reg$vs)

print(paste('Accuracy =', 1 - missing_classerr))

ROCPred <- prediction(predict_reg, test_reg$vs)

ROCPer <- performance(ROCPred, measure = "tpr",
x.measure = "fpr")

auc <- performance(ROCPred, measure = "auc")

auc <- auc@y.values[[1]]

auc

plot(ROCPer)

plot(ROCPer, colorize = TRUE,
      print.cutoffs.at = seq(0.1, by = 0.1),
      main = "ROC CURVE")

abline(a = 0, b = 1)

auc <- round(auc, 4)

legend(.6, .4, auc, title = "AUC", cex = 1)
```

```
data(Titanic)
data <- as.data.frame(Titanic)
model <- glm(Survived ~ Class + Sex + Age, family =
binomial, data = data)
summary(model)
install.packages("ROCR")
library(ROCR)
model <- glm(Survived ~ Class + Sex + Age, family =
binomial, data = data)
predictions <- predict(model, type = "response")
prediction_objects <- prediction(predictions,
titanic_df$Survived)
```

Output:-

ROC CURVE

