

# Titanic V1

```
library(titanic)

titanic_train <- na.omit(titanic_train)
nrow(titanic_train)

## [1] 714

## Split Data
set.seed(42)
n <- nrow(titanic_train)
id <- sample(1:n , size = n*.7)
train_data <- titanic_train[id, ]
test_data <- titanic_train[-id, ]

## Change to Factor
titanic_train$Sex <- factor(titanic_train$Sex,
                             levels = c("male","female"),
                             labels = c(0,1))

## Train Modl

logis_model <- glm(Survived ~ Sex,
                   data = train_data,
                   family = "binomial")
pred_train <- predict(logis_model, type="response")
train_data$pred <- ifelse(pred_train >= 0.5,1,0)
mean_train <- mean(train_data$Survived == train_data$pred)

## Test Model

pred_test <- predict(logis_model , newdata = test_data ,type = "response")
test_data$prep <- ifelse(pred_test>=0.5 ,1,0)
mean_test <- mean(test_data$Survived == test_data$prep)

## Confusion Matrix

confusion_matrix <- table(test_data$Survived,test_data$prep,
                           dnn = c("Actual", "Predicted"))
confusion_matrix

##      Predicted
## Actual    0    1
##      0 108  19
##      1  30  58

##Model Evaluation

acc <- (confusion_matrix[1,1]+confusion_matrix[2,2])/sum(confusion_matrix)
precision <- confusion_matrix[2,2]/(confusion_matrix[2,1]+confusion_matrix[2,2])
```

```
recall <- confusion_matrix[2,2]/(confusion_matrix[1,2]+confusion_matrix[2,2])
F1 <- 2*((precision*recall)/(precision+recall))
```

#### **##Model Evaluation**

```
cat("accuracy",acc,  
    "\nprecision", precision,  
    "\nrecall" , recall,  
    "\nF1" , F1)
```

```
## accuracy 0.772093  
## precision 0.6590909  
## recall 0.7532468  
## F1 0.7030303
```