# Generate random IQ values with mean = 30 and sd =2

IQ <- rnorm(40, 30, 2)

# Sorting IQ level in ascending order

IQ <- sort(IQ)

# Generate vector with pass and fail values of 40 students

result <- c(0, 0, 0, 1, 0, 0, 0, 0, 0, 1,

1, 0, 0, 0, 1, 1, 0, 0, 1, 0,

0, 0, 1, 0, 0, 1, 1, 0, 1, 1,

1, 1, 1, 0, 1, 1, 1, 1, 0, 1)

# Data Frame

df <- as.data.frame(cbind(IQ, result))

# Print data frame

print(df)

# output to be present as PNG file

png(file="LogisticRegressionGFG.png")

# Plotting IQ on x-axis and result on y-axis

plot(IQ, result, xlab = "IQ Level",

ylab = "Probability of Passing")

# Create a logistic model

g = glm(result~IQ, family=binomial, df)

# Create a curve based on prediction using the regression model

curve(predict(g, data.frame(IQ=x), type="resp"), add=TRUE)

# This Draws a set of points

# Based on fit to the regression model

points(IQ, fitted(g), pch=30)

# Summary of the regression model

summary(g)

# saving the file

dev.off()