**Functions**

1. Reading Dataset

import pandas as pd

import matplotlib.pyplot as plt

admissions = pd.read\_csv("admissions.csv")

plt.scatter(admissions['gpa'], admissions['admit'])

plt.show()

1. Logit Function

# Logit Function

def logit(x):

# np.exp(x) raises x to the exponential power, ie e^x. e ~= 2.71828

return np.exp(x) / (1 + np.exp(x))

# Generate 50 real values, evenly spaced, between -6 and 6.

x = np.linspace(-6,6,50, dtype=float)

# Transform each number in t using the logit function.

y = logit(x)

# Plot the resulting data.

plt.plot(x, y)

plt.ylabel("Probability")

plt.show()

1. Regressions

from sklearn.linear\_model import LinearRegression

linear\_model = LinearRegression()

linear\_model.fit(admissions[["gpa"]], admissions["admit"])

from sklearn.linear\_model import LogisticRegression

logistic\_model = LogisticRegression()

logistic\_model.fit(admissions[["gpa"]], admissions["admit"])

1. Logistic regression

logistic\_model = LogisticRegression()

logistic\_model.fit(admissions[["gpa"]], admissions["admit"])

pred\_probs = logistic\_model.predict\_proba(admissions[["gpa"]])

plt.scatter(admissions["gpa"], pred\_probs[:,1])

logistic\_model = LogisticRegression()

logistic\_model.fit(admissions[["gpa"]], admissions["admit"])

fitted\_labels = logistic\_model.predict(admissions[["gpa"]])

plt.scatter(admissions["gpa"], fitted\_labels)