**Practical 10**

**Aim:**

**Design and implement a neural network with Pima Indian diabetes dataset.**

**Code:**

from keras.models import Sequential

from keras.layers import Dense

from numpy import loadtxt

from sklearn.model\_selection import train\_test\_split

dataset = loadtxt('pima-indians-diabetes.csv',delimiter=',')

X = dataset[:,0:8]

Y = dataset[:,8]

X\_train, X\_test, Y\_train, Y\_test = train\_test\_split(X,Y,train\_size=0.7)

dataset.shape

model = Sequential()

model.add(Dense(12, input\_dim=8, activation='relu'))

model.add(Dense(16, activation='relu'))

model.add(Dense(1, activation='sigmoid'))

model.compile(loss='binary\_crossentropy',

optimizer='adam',

metrics=['accuracy'])

model.fit(X\_train,Y\_train,epochs=231,batch\_size=10,validation\_split=0.2)

\_, accuracy = model.evaluate(X\_test,Y\_test)

print('Accuracy: %2f'%(accuracy\*100))

**Output:**

