

Sahil Gujral

CSE-15

Code:-

```
import numpy as np
from tensorflow import keras

X = np.array([[0,0],[0,1],[1,0],[1,1]], "float32")
y = np.array([[0],[1],[1],[0]], "float32")

model = keras.models.Sequential()

model.add(keras.layers.Dense(8, input_dim=2, activation='relu')) # hidden layer
model.add(keras.layers.Dense(1, activation='sigmoid')) # output layer

model.compile(loss='mean_squared_error',
              optimizer='adam',
              metrics=['binary_accuracy'])

model.fit(X, y, epochs=1000)

print(model.predict(X).round())
```

Output:-

```
writable directory; it is highly recommended to set the MPLCONFIGDIR environment variable to a writable directory, in particular  
up the import of Matplotlib and to better support multiprocessing.  
/home/main.py:80: UserWarning: Matplotlib is currently using agg, which is a non-GUI backend, so cannot show the figure.  
    plt.show()  
[[1. 0. 0. 1.]]  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```