


```
import numpy as np
from keras.models import Sequential
from keras.layers.core import Dense

training_data = np.array([[0,0],[0,1],[1,0],[1,1]], "float32")
target_data = np.array([[0],[1],[1],[0]], "float32")

model = Sequential()
model.add(Dense(16, input_dim=2, activation='relu'))
model.add(Dense(1, activation='sigmoid'))
model.compile(loss='mean_squared_error',
              optimizer='adam',
              metrics=['binary_accuracy'])
model.fit(training_data, target_data, epochs=600)
scores = model.evaluate(training_data, target_data)

print("\n%s: %.2f%%" % (model.metrics_names[1], scores[1]*100))
print (model.predict(training_data).round())
```



Epoch 1/600
1/1 [=====] - 1s 568ms/step - loss: 0.2651 - binary_accuracy: 0.2500
Epoch 2/600
1/1 [=====] - 0s 8ms/step - loss: 0.2647 - binary_accuracy: 0.2500
Epoch 3/600
1/1 [=====] - 0s 8ms/step - loss: 0.2642 - binary_accuracy: 0.2500
Epoch 4/600
1/1 [=====] - 0s 7ms/step - loss: 0.2638 - binary_accuracy: 0.2500
Epoch 5/600
1/1 [=====] - 0s 9ms/step - loss: 0.2634 - binary_accuracy: 0.2500
Epoch 6/600
1/1 [=====] - 0s 7ms/step - loss: 0.2630 - binary_accuracy: 0.2500
Epoch 7/600
1/1 [=====] - 0s 8ms/step - loss: 0.2625 - binary_accuracy: 0.2500
Epoch 8/600
1/1 [=====] - 0s 6ms/step - loss: 0.2621 - binary_accuracy: 0.2500
Epoch 9/600
1/1 [=====] - 0s 5ms/step - loss: 0.2617 - binary_accuracy: 0.2500
Epoch 10/600
1/1 [=====] - 0s 8ms/step - loss: 0.2613 - binary_accuracy: 0.2500
Epoch 11/600
1/1 [=====] - 0s 5ms/step - loss: 0.2609 - binary_accuracy: 0.2500
Epoch 12/600
1/1 [=====] - 0s 6ms/step - loss: 0.2605 - binary_accuracy: 0.2500
Epoch 13/600
1/1 [=====] - 0s 7ms/step - loss: 0.2601 - binary_accuracy: 0.2500
Epoch 14/600
1/1 [=====] - 0s 9ms/step - loss: 0.2598 - binary_accuracy: 0.2500
Epoch 15/600
1/1 [=====] - 0s 11ms/step - loss: 0.2595 - binary_accuracy: 0.2500
Epoch 16/600
1/1 [=====] - 0s 6ms/step - loss: 0.2591 - binary_accuracy: 0.2500
Epoch 17/600
1/1 [=====] - 0s 6ms/step - loss: 0.2588 - binary_accuracy: 0.2500
Epoch 18/600
1/1 [=====] - 0s 6ms/step - loss: 0.2584 - binary_accuracy: 0.2500
Epoch 19/600
1/1 [=====] - 0s 5ms/step - loss: 0.2581 - binary_accuracy: 0.2500
Epoch 20/600
1/1 [=====] - 0s 6ms/step - loss: 0.2578 - binary_accuracy: 0.2500
Epoch 21/600
1/1 [=====] - 0s 5ms/step - loss: 0.2574 - binary_accuracy: 0.2500
Epoch 22/600
1/1 [=====] - 0s 5ms/step - loss: 0.2571 - binary_accuracy: 0.2500
Epoch 23/600
1/1 [=====] - 0s 6ms/step - loss: 0.2568 - binary_accuracy: 0.2500
Epoch 24/600
1/1 [=====] - 0s 6ms/step - loss: 0.2565 - binary_accuracy: 0.2500
Epoch 25/600
1/1 [=====] - 0s 6ms/step - loss: 0.2561 - binary_accuracy: 0.2500
Epoch 26/600
1/1 [=====] - 0s 6ms/step - loss: 0.2558 - binary_accuracy: 0.2500
Epoch 27/600
1/1 [=====] - 0s 6ms/step - loss: 0.2555 - binary_accuracy: 0.2500
Epoch 28/600
1/1 [=====] - 0s 7ms/step - loss: 0.2551 - binary_accuracy: 0.2500
Epoch 29/600
1/1 [=====] - 0s 5ms/step - loss: 0.2548 - binary_accuracy: 0.5000

