```
import numpy as np
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Dense
training_data = np.array([[0,0],[0,1],[1,0],[1,1]], "float32")
target_data = np.array([[0],[0],[0],[1]], "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=1000)
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 967/1000
1/1 [==============================] - 0s 16ms/step - loss: 0.0075 - binary_accura
Epoch 968/1000
1/1 [==============================] - 0s 7ms/step - loss: 0.0074 - binary_accuracy
Epoch 969/1000
1/1 [==============================] - 0s 9ms/step - loss: 0.0074 - binary_accuracy
Epoch 970/1000
1/1 [==============================] - 0s 6ms/step - loss: 0.0074 - binary_accuracy
Epoch 971/1000
1/1 [==============================] - 0s 10ms/step - loss: 0.0074 - binary_accura
Epoch 972/1000
1/1 [==============================] - 0s 7ms/step - loss: 0.0074 - binary_accuracy
Epoch 973/1000
1/1 [==============================] - 0s 17ms/step - loss: 0.0073 - binary_accura
Epoch 974/1000
1/1 [==============================] - 0s 13ms/step - loss: 0.0073 - binary_accura
Epoch 975/1000
1/1 [==============================] - 0s 8ms/step - loss: 0.0073 - binary_accuracy
Epoch 976/1000
1/1 [==============================] - 0s 6ms/step - loss: 0.0073 - binary_accuracy
Epoch 977/1000
1/1 [==============================] - 0s 5ms/step - loss: 0.0072 - binary_accuracy
Epoch 978/1000
1/1 [==============================] - 0s 19ms/step - loss: 0.0072 - binary_accura
Epoch 979/1000
1/1 [==============================] - 0s 4ms/step - loss: 0.0072 - binary_accuracy
Epoch 980/1000
1/1 [==============================] - 0s 4ms/step - loss: 0.0072 - binary_accuracy
Epoch 981/1000
1/1 [==============================] - 0s 20ms/step - loss: 0.0072 - binary_accura
Epoch 982/1000
1/1 [==============================] - 0s 5ms/step - loss: 0.0071 - binary_accuracy
Epoch 983/1000
1/1 [==============================] - 0s 5ms/step - loss: 0.0071 - binary_accuracy
Epoch 984/1000
1/1 [==============================] - 0s 14ms/step - loss: 0.0071 - binary_accura
Epoch 985/1000
1/1 [==============================] - 0s 5ms/step - loss: 0.0071 - binary_accuracy
Epoch 986/1000
1/1 [==============================] - 0s 17ms/step - loss: 0.0071 - binary_accura
Epoch 987/1000
1/1 [==============================] - 0s 5ms/step - loss: 0.0070 - binary_accuracy
Epoch 988/1000
```

```
1/1 [==============================] - 0s 10ms/step - loss: 0.0070 - binary_accura
Epoch 989/1000
1/1 [==============================] - 0s 4ms/step - loss: 0.0070 - binary_accuracy
Epoch 990/1000
1/1 [==============================] - 0s 8ms/step - loss: 0.0070 - binary_accuracy
Epoch 991/1000
1/1 [==============================] - 0s 9ms/step - loss: 0.0070 - binary_accuracy
Epoch 992/1000
1/1 [==============================] - 0s 5ms/step - loss: 0.0069 - binary_accuracy
Epoch 993/1000
1/1 [==============================] - 0s 7ms/step - loss: 0.0069 - binary_accuracy
Epoch 994/1000
1/1 [==============================] - 0s 11ms/step - loss: 0.0069 - binary_accura
Epoch 995/1000
1/1 [==============================] - 0s 8ms/step - loss: 0.0069 - binary_accuracy
```

✓ 24s completed at 9:59 AM