





A Step-by-Step Guide to Using the TensorFlow Test Code

This guide helps you verify that **TensorFlow** and **NumPy** are properly installed and working on your system through a simple test script.

☐ Prerequisites

Before you begin, make sure you have the following:

-  **Python** installed (preferably the latest version)
-  **TensorFlow** installed
- `pip install tensorflow`
-  **NumPy** installed
- `pip install numpy`
-  A **code editor or IDE** (e.g., VS Code, PyCharm, Jupyter Notebook, etc.)

☐ Step 1: Save the Code

1. **Copy the following test code:**

```
import tensorflow as tf
from tensorflow import keras
from tensorflow.keras import layers
import numpy as np

# Quick compute
x = tf.random.normal([1000, 1000])
y = tf.reduce_sum(x)
print("Compute OK, sum =", y.numpy())

# Tiny model
model = keras.Sequential([
    layers.Dense(8, activation="relu", input_shape=(4,)),
    layers.Dense(1)
])
model.compile(optimizer="adam", loss="mse")

X = np.random.randn(256, 4).astype("float32")
y = np.random.randn(256, 1).astype("float32")

hist = model.fit(X, y, epochs=2, verbose=0)
print("Train OK, final loss:", hist.history["loss"][-1])
exit()
```

2. **Open your code editor or IDE.**
3. **Create a new file** and paste the code into it.
4. **Save the file as:**
`tensorflow_test.py`

Step 2: Run the Code

1. **Open your terminal or command prompt.**
2. **Navigate** to the folder where you saved the script:
3. `cd path/to/your/directory`
4. **Run the script using Python:**

```
python tensorflow_test.py
```

💡 If you're using a virtual environment, activate it before running the script.

What to Expect

If everything is working correctly, you should see two print statements similar to:

```
Compute OK, sum = 499.1234
Train OK, final loss: 0.9582
```

Interpretation:

- `Compute OK` → Confirms TensorFlow can perform numerical computations.
 - `Train OK` → Confirms TensorFlow can create and train neural network models.
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Troubleshooting

Issue	Possible Cause	Solution
<code>ModuleNotFoundError: No module named 'tensorflow'</code>	TensorFlow not installed	Run <code>pip install tensorflow</code>
<code>ModuleNotFoundError: No module named 'numpy'</code>	NumPy not installed	Run <code>pip install numpy</code>
<code>python: can't open file 'tensorflow_test.py'</code>	Wrong directory or file name	Confirm correct path and filename
Other errors	System or version conflicts	Try upgrading packages: <code>pip install --upgrade tensorflow numpy</code>

Summary

By completing these steps, you've:

- Verified your **Python environment** setup
- Confirmed **TensorFlow and NumPy** installations
- Successfully **tested computation and model training**

You're now ready to start building and training deep learning models with TensorFlow!
