In [ ]:
```
#tensorflow_test
```

In [1]:
```
# TensorFlow Test Program
import tensorflow as tf
print("TensorFlow version:", tf.__version__)
hello = tf.constant("Hello, TensorFlow!")
tf.print(hello)
```

```
TensorFlow version: 2.18.0
Hello, TensorFlow!
```

In [ ]:
```
#keras_test
```

In [2]:
```
# Keras Test Program
from tensorflow import keras
from keras import datasets

# Load MNIST dataset
(train_images, train_labels), (test_images, test_labels) = datasets.mnist.load_data

print("Training data shape:", train_images.shape)
print("Test data shape:", test_images.shape)
```

```
Downloading data from https://storage.googleapis.com/tensorflow/tf-keras-datasets/mn
ist.npz
11490434/11490434 ━━━━━━━━━━━━━━━━━━━━ 4s 0us/step
Training data shape: (60000, 28, 28)
Test data shape: (10000, 28, 28)
```

In [ ]:
```
#theano_test
```

In [6]:
```
# Theano Test Program
#This code wont work in python 3.11 and above
import numpy
import theano.tensor as T
from theano import function

# Declare two scalars
x = T.dscalar('x')
y = T.dscalar('y')

# Create a computation
z = x + y

# Compile the function
f = function([x, y], z)

# Call the function
print("Result of f(5, 7):", f(5, 7))
```

```
---------------------------------------------------------------------------
ModuleNotFoundError                       Traceback (most recent call last)
Cell In[6], line 3
      1 # Theano Test Program
      2 import numpy
----> 3 import theano.tensor as T
      4 from theano import function
      6 # Declare two scalars

ModuleNotFoundError: No module named 'theano'
```

In [ ]:
```
#pytorch_test
```

In [4]:
```
# PyTorch Test Program
import torch
import torch.nn as nn

print("PyTorch version:", torch.__version__)

# Simple tensor operation
x = torch.tensor([5.0])
y = torch.tensor([7.0])
z = x + y
print("Sum of tensors:", z.item())
```

```
PyTorch version: 2.6.0+cpu
Sum of tensors: 12.0
```

In [ ]:
```

```