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TensorFlow

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```
import tensorflow as tf  
hello = tf.constant(["Hello, TensorFlow!"])  
print(hello)
```

```
Tensor("Const_1:0", shape=(1,), dtype=string)
```

```
a=tf.constant(10)  
b=tf.constant(32)  
c=tf.add(a,b)  
print(c)
```

Tensor("Add:0", shape=(), dtype=int32)

```
sess = tf.Session()
```

```
print(sess.run(hello))
```

```
print(sess.run([a,b,c]))
```

```
sess.close()
```

```
[b'Hello, TensorFlow!'] [10, 32, 42]
```

b : byte

```
X = tf.placeholder (tf.float32, [None, 3])  
print(X)
```

```
Tensor("Placeholder:0", shape=(?, 3), dtype=float32)
```

```
x_data = [[1,2,3], [4,5,6]]  
print(x_data)
```

```
[[1, 2, 3], [4, 5, 6]]
```

```
W=tf.Variable(tf.random_normal([3,2]))  
b=tf.Variable(tf.random_normal([2,1]))  
print(W)  
print(b)
```

```
<tf.Variable 'Variable_2:0' shape=(3, 2) dtype=float32_ref>  
<tf.Variable 'Variable_3:0' shape=(2, 1) dtype=float32_ref>
```

```
expr = tf.matmul(X, W) + b  
print(expr)
```

```
Tensor("add:0", shape=(2, 2), dtype=float32)
```

```
sess = tf.Session()
sess.run(tf.global_variables_initializer())

print("=== x data ===")
print(x_data)
print("=== W ===")
print(sess.run(W))
print("=== b ===")
print(sess.run(b))
print("=== expr ===")
print(sess.run(expr, feed_dict={X: x_data}))

sess.close()
```

```
=== x data ===
[[1, 2, 3], [4, 5, 6]]
=== W ===
[[ 1.5674975  1.1554967 ]
 [-0.98044693 -0.18680261]
 [ 2.1845849  0.2875251 ]]
=== b ===
[[0.32480603] [0.48454314]]
=== expr ===
[[ 6.4851646  1.9692729]
 [14.959808  5.8976674]]
```