

Chapter_2_Section_2_Evaluating_Ops

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1 Ch 02: Concept 02

1.1 Evaluating ops

Import TensorFlow:

```
In [1]: import tensorflow as tf
```

Start with a 1x2 matrix:

```
In [2]: x = tf.constant([[1, 2]])
```

Let's negate it. Define the negation op to be run on the matrix:

```
In [3]: neg_x = tf.negative(x)
```

It's nothing special if you print it out. In fact, it doesn't even perform the negation computation. Check out what happens when you simply print it:

```
In [4]: print(neg_x)
```

```
Tensor("Neg:0", shape=(1, 2), dtype=int32)
```

You need to summon a session so you can launch the negation op:

```
In [5]: with tf.Session() as sess:  
        result = sess.run(neg_x)  
        print(result)
```

```
[[ -1  -2]]
```

2 Creating tensors

```
In [6]: import tensorflow as tf
        m1 = tf.constant([[ 1. , 2. ]])
        m2 = tf.constant([[ 1 ],[ 2 ]])

        m3 = tf.constant([ [[ 1 , 2 ],
                             [ 3 , 4 ],
                             [ 5 , 6 ]],
                             [[ 7 , 8 ],
                              [ 9 , 10 ],
                              [ 11 , 12 ]]])

        print (m1)
        print (m2)
        print (m3)

Tensor("Const_1:0", shape=(1, 2), dtype=float32)
Tensor("Const_2:0", shape=(2, 1), dtype=int32)
Tensor("Const_3:0", shape=(2, 3, 2), dtype=int32)
```