

Import

```
import tensorflow as tf
```

placeholders

```
tf.placeholder(dtype, shape=None,  
name=None)
```

Variables

```
tf.Variable(initial_value=None, trainable=  
=True, collections=None, name=None,  
dtype=None, ...)
```

Show Variable

```
with tf.Session() as sess:  
print sess.run(x)
```

Phase 1: Assemble graph

Step 1: Read in data

Step 2: Create placeholders for inputs and labels

```
tf.placeholder(dtype, shape=None,  
name=None)
```

Step 3: Create weight and bias

```
tf.Variable(initial_value=None, trainable=  
=True, collections=None, name=None,  
dtype=None, ...)
```

Step 4: Build model to predict Y

```
Y_predicted = X * w + b
```

Step 5: Specify loss function

```
tf.square(Y - Y_predicted, name="loss")
```

Step 6: Create optimizer

```
tf.train.GradientDescentOptimizer(learning_  
_rate=0.001).minimize(loss)
```

Phase 2: Train model

Initialize variables

Run optimizer op (with data fed into placeholders for inputs and labels)



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