

## Exercises for week 1:

1. Define variables `a`, `b` and `f` as follows:

```
a = tf.Variable(0.0, name='a')
b = tf.Variable(0.0, name='b')
f = tf.add((a + 2.0 * b - 7.0)**2, (2.0 * a + b - 5.0)**2, name='f')
```

See the notes [http://web.stanford.edu/class/cs20si/lectures/notes\\_02.pdf](http://web.stanford.edu/class/cs20si/lectures/notes_02.pdf) and use the instruction at the page 2 for graph visualization in TensorBoard.

2. Add a loop with `range(100)` where you use `GradientDescentOptimizer` to minimize `f`.

3. Define variables `x`, `y`, `g` and a placeholder `c` as follows:

```
x = tf.Variable([0., 0.], name='x')
y = tf.constant([1.0, 1.0], name='y')
c = tf.placeholder(tf.float32, shape=[1])
g = (c * x - y)**2
```

In this exercise we want to minimize the function `g` in similar loop as in the previous exercise, except now you should set the placeholder `c=[1.]` inside the loop using a `feed_dict`.