TensorFlow

Курс “Практическое применение по TensorFlow”
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Tensorboard. Graph for previous program (distance)

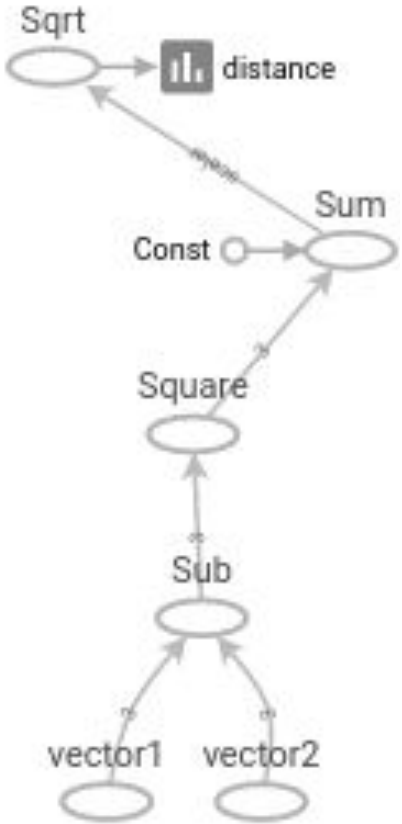
```
pip install tensorboard
pip show tensorboard
```

Add to code:

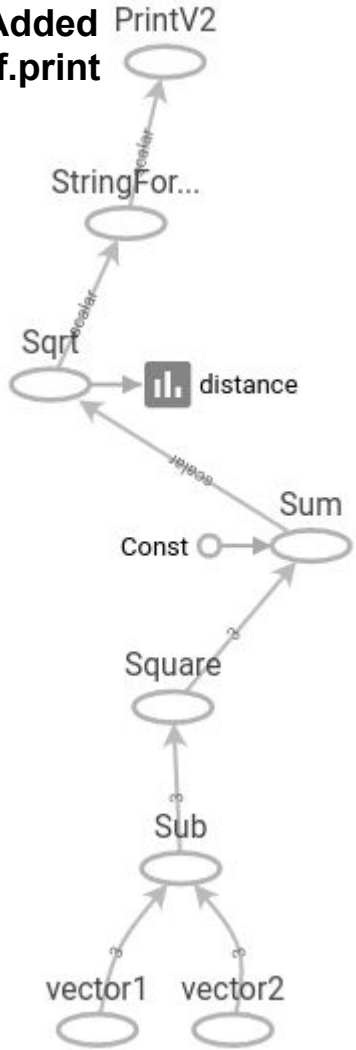
```
tf.summary.scalar('distance', distance)

summary_merged_op = tf.summary.merge_all()
tensorboard_writer = tf.summary.FileWriter('./logs', tf.get_default_graph())

with session.as_default():
    summary_, distance_output, _ = session.run([summary_merged_op, distance, print_op],
                                    feed_dict={v1_ph: data['v1'],
                                               v2_ph: data['v2']})
    tensorboard_writer.add_summary(summary_, 0)
    print(distance_output)
```

Run in terminal: **tensorboard --logdir=./logs**

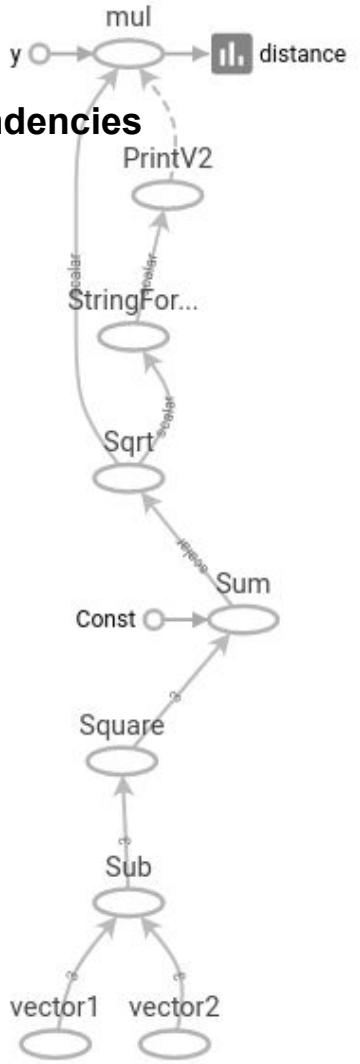
Graph visualization



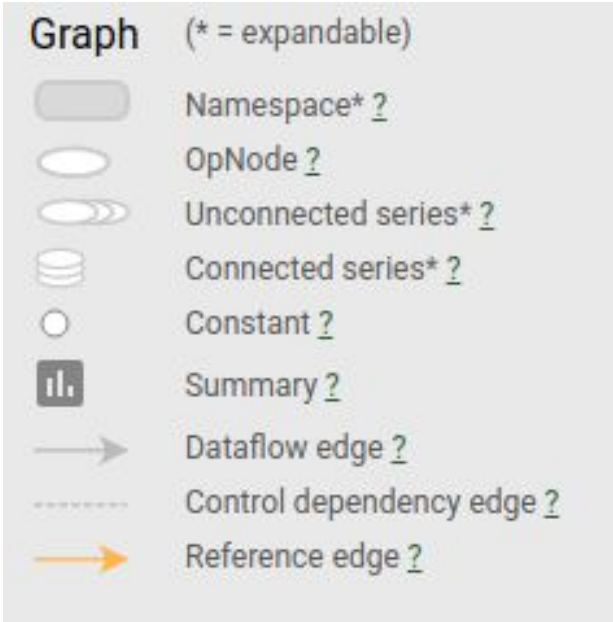
Added tf.print



Added tf.control_dependencies



Graph's notations



Importants

1. Define explicitly created graph **as_default()** for avoiding conflicts during multithreading, ambiguity (to which graph do operations belong?). But after closing explicitly created graph context, the default graph is the graph that is created in program by default ALWAYS by TensorFlow.
2. When session is running TensorFlow **analyze** and **build** graph and **evaluate only** needed operations that have to be evaluated for getting result for operations that were passed to *session.run*.
3. Only operations created **within** *control_dependencies* context will be really added as control dependency.