Entering function \_\_main\_\_

Embedding tokens size=400001

File name 4way\_tur\_ger\_rus\_usa25-150. Total data size is 200000

Our 4 labels to index dictionary ={u'turkey': 2, u'germany': 0, u'russia': 1, u'us': 3}

Our 4 index to labels dictionary ={0: u'germany', 1: u'russia', 2: u'turkey', 3: u'us'}

x\_train: 162000, x\_dev: 18000, x\_test: 20000

y\_train: 162000, y\_dev: 18000, y\_test: 20000

input\_data\_x\_batch shape: (200, 150)

input\_labels\_batch shape: (200, 4)

gru\_forward\_cell units: 150

gru\_backward\_cell units: 150

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(450), Dimension(300)]), 135000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(450), Dimension(150)]), 67500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(450), Dimension(300)]), 135000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(450), Dimension(150)]), 67500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'weight:0', TensorShape([Dimension(300), Dimension(4)]), 1200)

(u'bias:0', TensorShape([Dimension(4)]), 4)

total PARAM 1,219,804

---done vars---

Epoch: 1/10 ---- best so far on epoch 0: acc=0.0000%

DEV accuracy on epoch 1/10 in train step 405 = 53.5611%

Class turkey : (3097/4476) -> accuracy: 69.1912%

Class germany: (2549/4486) -> accuracy: 56.8212%

Class russia : (2391/4511) -> accuracy: 53.0038%

Class us : (1604/4527) -> accuracy: 35.4319%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 1

INFO:root: Best accuracy 53.5611% at epoch 1/10 (9641/18000)

DEV accuracy on epoch 1/10 in train step 807 = 59.6944%

Class turkey : (2805/4476) -> accuracy: 62.6676%

Class germany: (1914/4486) -> accuracy: 42.6661%

Class russia : (3116/4511) -> accuracy: 69.0756%

Class us : (2910/4527) -> accuracy: 64.2810%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 1

INFO:root: Best accuracy 59.6944% at epoch 1/10 (10745/18000)

Epoch run time: 00:22:49

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Epoch: 2/10 ---- best so far on epoch 1: acc=59.6944%

DEV accuracy on epoch 2/10 in train step 405 = 61.6278%

Class turkey : (3331/4476) -> accuracy: 74.4191%

Class germany: (2658/4486) -> accuracy: 59.2510%

Class russia : (2931/4511) -> accuracy: 64.9745%

Class us : (2173/4527) -> accuracy: 48.0009%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 2

INFO:root: Best accuracy 61.6278% at epoch 2/10 (11093/18000)

DEV accuracy on epoch 2/10 in train step 807 = 62.5722%

Class turkey : (3090/4476) -> accuracy: 69.0349%

Class germany: (2055/4486) -> accuracy: 45.8092%

Class russia : (3031/4511) -> accuracy: 67.1913%

Class us : (3087/4527) -> accuracy: 68.1909%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 2

INFO:root: Best accuracy 62.5722% at epoch 2/10 (11263/18000)

Epoch run time: 00:22:31

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Epoch: 3/10 ---- best so far on epoch 2: acc=62.5722%

DEV accuracy on epoch 3/10 in train step 405 = 63.4944%

Class turkey : (3288/4476) -> accuracy: 73.4584%

Class germany: (2771/4486) -> accuracy: 61.7700%

Class russia : (2949/4511) -> accuracy: 65.3735%

Class us : (2421/4527) -> accuracy: 53.4791%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 3

INFO:root: Best accuracy 63.4944% at epoch 3/10 (11429/18000)

DEV accuracy on epoch 3/10 in train step 807 = 63.8889%

Class turkey : (3197/4476) -> accuracy: 71.4254%

Class germany: (2089/4486) -> accuracy: 46.5671%

Class russia : (3077/4511) -> accuracy: 68.2110%

Class us : (3137/4527) -> accuracy: 69.2953%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 3

INFO:root: Best accuracy 63.8889% at epoch 3/10 (11500/18000)

Epoch run time: 00:22:30

###################################################################################################

Epoch: 4/10 ---- best so far on epoch 3: acc=63.8889%

DEV accuracy on epoch 4/10 in train step 405 = 64.1500%

Class turkey : (3341/4476) -> accuracy: 74.6425%

Class germany: (2710/4486) -> accuracy: 60.4102%

Class russia : (2996/4511) -> accuracy: 66.4154%

Class us : (2500/4527) -> accuracy: 55.2242%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 4

INFO:root: Best accuracy 64.1500% at epoch 4/10 (11547/18000)

DEV accuracy on epoch 4/10 in train step 807 = 64.3556%

Class turkey : (3148/4476) -> accuracy: 70.3307%

Class germany: (2190/4486) -> accuracy: 48.8185%

Class russia : (3012/4511) -> accuracy: 66.7701%

Class us : (3234/4527) -> accuracy: 71.4380%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 4

INFO:root: Best accuracy 64.3556% at epoch 4/10 (11584/18000)

Epoch run time: 00:22:30

###################################################################################################

Epoch: 5/10 ---- best so far on epoch 4: acc=64.3556%

DEV accuracy on epoch 5/10 in train step 405 = 64.1611%

Class turkey : (3275/4476) -> accuracy: 73.1680%

Class germany: (2828/4486) -> accuracy: 63.0406%

Class russia : (2907/4511) -> accuracy: 64.4425%

Class us : (2539/4527) -> accuracy: 56.0857%

DEV accuracy on epoch 5/10 in train step 807 = 64.7056%

Class turkey : (3139/4476) -> accuracy: 70.1296%

Class germany: (2393/4486) -> accuracy: 53.3437%

Class russia : (3129/4511) -> accuracy: 69.3638%

Class us : (2986/4527) -> accuracy: 65.9598%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 5

INFO:root: Best accuracy 64.7056% at epoch 5/10 (11647/18000)

Epoch run time: 00:22:27

###################################################################################################

Epoch: 6/10 ---- best so far on epoch 5: acc=64.7056%

DEV accuracy on epoch 6/10 in train step 405 = 64.2278%

Class turkey : (3147/4476) -> accuracy: 70.3083%

Class germany: (2738/4486) -> accuracy: 61.0343%

Class russia : (3117/4511) -> accuracy: 69.0978%

Class us : (2559/4527) -> accuracy: 56.5275%

DEV accuracy on epoch 6/10 in train step 807 = 64.2444%

Class turkey : (2983/4476) -> accuracy: 66.6443%

Class germany: (2345/4486) -> accuracy: 52.2737%

Class russia : (3174/4511) -> accuracy: 70.3613%

Class us : (3062/4527) -> accuracy: 67.6386%

Epoch run time: 00:22:26

###################################################################################################

Epoch: 7/10 ---- best so far on epoch 5: acc=64.7056%

DEV accuracy on epoch 7/10 in train step 405 = 63.6944%

Class turkey : (3147/4476) -> accuracy: 70.3083%

Class germany: (2698/4486) -> accuracy: 60.1427%

Class russia : (3155/4511) -> accuracy: 69.9401%

Class us : (2465/4527) -> accuracy: 54.4511%

DEV accuracy on epoch 7/10 in train step 807 = 63.6167%

Class turkey : (2778/4476) -> accuracy: 62.0643%

Class germany: (2247/4486) -> accuracy: 50.0892%

Class russia : (3308/4511) -> accuracy: 73.3319%

Class us : (3118/4527) -> accuracy: 68.8756%

Epoch run time: 00:22:26

###################################################################################################

Epoch: 8/10 ---- best so far on epoch 5: acc=64.7056%

DEV accuracy on epoch 8/10 in train step 405 = 62.4222%

Class turkey : (2991/4476) -> accuracy: 66.8231%

Class germany: (2746/4486) -> accuracy: 61.2127%

Class russia : (3406/4511) -> accuracy: 75.5043%

Class us : (2093/4527) -> accuracy: 46.2337%

DEV accuracy on epoch 8/10 in train step 807 = 62.0611%

Class turkey : (2392/4476) -> accuracy: 53.4406%

Class germany: (2273/4486) -> accuracy: 50.6687%

Class russia : (3349/4511) -> accuracy: 74.2407%

Class us : (3157/4527) -> accuracy: 69.7371%

Epoch run time: 00:22:26

###################################################################################################

Epoch: 9/10 ---- best so far on epoch 5: acc=64.7056%

DEV accuracy on epoch 9/10 in train step 405 = 62.3222%

Class turkey : (3007/4476) -> accuracy: 67.1805%

Class germany: (2751/4486) -> accuracy: 61.3241%

Class russia : (3363/4511) -> accuracy: 74.5511%

Class us : (2097/4527) -> accuracy: 46.3221%

DEV accuracy on epoch 9/10 in train step 807 = 62.7333%

Class turkey : (2597/4476) -> accuracy: 58.0206%

Class germany: (2464/4486) -> accuracy: 54.9264%

Class russia : (3170/4511) -> accuracy: 70.2727%

Class us : (3061/4527) -> accuracy: 67.6165%

Epoch run time: 00:22:26

###################################################################################################

Epoch: 10/10 ---- best so far on epoch 5: acc=64.7056%

DEV accuracy on epoch 10/10 in train step 405 = 62.0333%

Class turkey : (2820/4476) -> accuracy: 63.0027%

Class germany: (2527/4486) -> accuracy: 56.3308%

Class russia : (3449/4511) -> accuracy: 76.4575%

Class us : (2370/4527) -> accuracy: 52.3526%

DEV accuracy on epoch 10/10 in train step 807 = 62.7556%

Class turkey : (2873/4476) -> accuracy: 64.1868%

Class germany: (2658/4486) -> accuracy: 59.2510%

Class russia : (2919/4511) -> accuracy: 64.7085%

Class us : (2846/4527) -> accuracy: 62.8672%

Epoch run time: 00:22:26

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\*\*\*Training is complete. Best accuracy 64.7056% at epoch 5/10

\*\*\*Testing...

INFO:tensorflow:Restoring parameters from ../model\_temp/model.ckpt

INFO:tensorflow:Restoring parameters from ../model\_temp/model.ckpt

Accuracy on test set - (12861/20000) -> accuracy: 64.3050%

Class turkey : (3550/5094) -> accuracy: 69.6898%

Class germany: (2685/5032) -> accuracy: 53.3585%

Class russia : (3410/4995) -> accuracy: 68.2683%

Class us : (3216/4879) -> accuracy: 65.9151%

End summary ----------------------

data:

DATA\_FILE\_PATH is ../input/4way\_tur\_ger\_rus\_usa25-150.txt

MINIMUM\_ROW\_LENGTH is 25

MAXIMUM\_ROW\_LENGTH is 150

COUNT\_WORD is 20

lines\_per\_class is 50000

number of classes is 4

Total data size is 200000

embedding:

EMB\_FILE\_PATH ../input/glove.6B.300d.txt

EMB\_DIM 300

EMB\_WORDS\_COUNT 400001

run config:

EPOCHS 10

evaluating on dev data 2 times per epoch

KEEP\_PROB 0.5

BATCH\_SIZE 200

LSTM\_HIDDEN\_UNITS 150

LSTM\_CELL\_TYPE GRU

optimizer is adamOptimizer - learn rate: 0.001

model:

USE\_TMP\_FOLDER True

mdl\_path ../model\_temp/model.ckpt

results:

best training acc at epoch=5 is 64.7055555556

testing acc 64.305

Time(HH:MM:SS): 03:47:41

Leaving function \_\_main\_\_