Entering function \_\_main\_\_

Embedding tokens size=400001

File name 5way\_tur\_ger\_rus\_fra\_usa25-150. Total data size is 250000

Our 5 labels to index dictionary ={u'turkey': 3, u'germany': 1, u'russia': 2, u'us': 4, u'france': 0}

Our 5 index to labels dictionary ={0: u'france', 1: u'germany', 2: u'russia', 3: u'turkey', 4: u'us'}

x\_train: 202500, x\_dev: 22500, x\_test: 25000

y\_train: 202500, y\_dev: 22500, y\_test: 25000

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

input\_labels\_batch shape: (200, 5)

gru\_forward\_cell units: 300

gru\_backward\_cell units: 300

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(350), Dimension(600)]), 210000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(350), Dimension(300)]), 105000)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(350), Dimension(600)]), 210000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(350), Dimension(300)]), 105000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'weight:0', TensorShape([Dimension(600), Dimension(5)]), 3000)

(u'bias:0', TensorShape([Dimension(5)]), 5)

total PARAM 2,798,405

---done vars---

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

DEV accuracy on epoch 1/10 in train step 506 = 20.0670%

Class turkey : (0/4422) -> accuracy: 0.0000%

Class germany: (0/4405) -> accuracy: 0.0000%

Class russia : (0/4506) -> accuracy: 0.0000%

Class us : (4495/4495) -> accuracy: 100.0000%

Class france : (0/4572) -> accuracy: 0.0000%

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

INFO:root: Best accuracy 20.0670% at epoch 1/10 (4495/22400)

DEV accuracy on epoch 1/10 in train step 1009 = 20.1205%

Class turkey : (1/4422) -> accuracy: 0.0226%

Class germany: (0/4405) -> accuracy: 0.0000%

Class russia : (4505/4506) -> accuracy: 99.9778%

Class us : (0/4495) -> accuracy: 0.0000%

Class france : (1/4572) -> accuracy: 0.0219%

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

INFO:root: Best accuracy 20.1205% at epoch 1/10 (4507/22400)

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Epoch: 2/10 ---- best so far on epoch 1: acc=20.1205%

DEV accuracy on epoch 2/10 in train step 506 = 20.0670%

Class turkey : (0/4422) -> accuracy: 0.0000%

Class germany: (0/4405) -> accuracy: 0.0000%

Class russia : (0/4506) -> accuracy: 0.0000%

Class us : (4495/4495) -> accuracy: 100.0000%

Class france : (0/4572) -> accuracy: 0.0000%

DEV accuracy on epoch 2/10 in train step 1009 = 41.8214%

Class turkey : (1545/4422) -> accuracy: 34.9389%

Class germany: (1666/4405) -> accuracy: 37.8207%

Class russia : (2814/4506) -> accuracy: 62.4501%

Class us : (2231/4495) -> accuracy: 49.6329%

Class france : (1112/4572) -> accuracy: 24.3220%

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

INFO:root: Best accuracy 41.8214% at epoch 2/10 (9368/22400)

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Epoch: 3/10 ---- best so far on epoch 2: acc=41.8214%

DEV accuracy on epoch 3/10 in train step 506 = 49.8393%

Class turkey : (2737/4422) -> accuracy: 61.8951%

Class germany: (1532/4405) -> accuracy: 34.7787%

Class russia : (3022/4506) -> accuracy: 67.0661%

Class us : (2375/4495) -> accuracy: 52.8365%

Class france : (1498/4572) -> accuracy: 32.7647%

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

INFO:root: Best accuracy 49.8393% at epoch 3/10 (11164/22400)

DEV accuracy on epoch 3/10 in train step 1009 = 51.1562%

Class turkey : (2334/4422) -> accuracy: 52.7815%

Class germany: (1855/4405) -> accuracy: 42.1112%

Class russia : (3035/4506) -> accuracy: 67.3546%

Class us : (2648/4495) -> accuracy: 58.9099%

Class france : (1587/4572) -> accuracy: 34.7113%

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

INFO:root: Best accuracy 51.1562% at epoch 3/10 (11459/22400)

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Epoch: 4/10 ---- best so far on epoch 3: acc=51.1562%

DEV accuracy on epoch 4/10 in train step 506 = 52.6518%

Class turkey : (3131/4422) -> accuracy: 70.8051%

Class germany: (1889/4405) -> accuracy: 42.8831%

Class russia : (2687/4506) -> accuracy: 59.6316%

Class us : (2189/4495) -> accuracy: 48.6986%

Class france : (1898/4572) -> accuracy: 41.5136%

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

INFO:root: Best accuracy 52.6518% at epoch 4/10 (11794/22400)

DEV accuracy on epoch 4/10 in train step 1009 = 52.9196%

Class turkey : (2476/4422) -> accuracy: 55.9928%

Class germany: (2000/4405) -> accuracy: 45.4030%

Class russia : (3120/4506) -> accuracy: 69.2410%

Class us : (2529/4495) -> accuracy: 56.2625%

Class france : (1729/4572) -> accuracy: 37.8171%

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

INFO:root: Best accuracy 52.9196% at epoch 4/10 (11854/22400)

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Epoch: 5/10 ---- best so far on epoch 4: acc=52.9196%

DEV accuracy on epoch 5/10 in train step 506 = 53.7545%

Class turkey : (3042/4422) -> accuracy: 68.7924%

Class germany: (1892/4405) -> accuracy: 42.9512%

Class russia : (2899/4506) -> accuracy: 64.3364%

Class us : (2109/4495) -> accuracy: 46.9188%

Class france : (2099/4572) -> accuracy: 45.9099%

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

INFO:root: Best accuracy 53.7545% at epoch 5/10 (12041/22400)

DEV accuracy on epoch 5/10 in train step 1009 = 54.1741%

Class turkey : (2571/4422) -> accuracy: 58.1411%

Class germany: (2130/4405) -> accuracy: 48.3541%

Class russia : (2896/4506) -> accuracy: 64.2699%

Class us : (2476/4495) -> accuracy: 55.0834%

Class france : (2062/4572) -> accuracy: 45.1006%

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

INFO:root: Best accuracy 54.1741% at epoch 5/10 (12135/22400)

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Epoch: 6/10 ---- best so far on epoch 5: acc=54.1741%

DEV accuracy on epoch 6/10 in train step 506 = 54.2991%

Class turkey : (2938/4422) -> accuracy: 66.4405%

Class germany: (2032/4405) -> accuracy: 46.1294%

Class russia : (2849/4506) -> accuracy: 63.2268%

Class us : (2377/4495) -> accuracy: 52.8810%

Class france : (1967/4572) -> accuracy: 43.0227%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 6

INFO:root: Best accuracy 54.2991% at epoch 6/10 (12163/22400)

DEV accuracy on epoch 6/10 in train step 1009 = 54.1920%

Class turkey : (2550/4422) -> accuracy: 57.6662%

Class germany: (2047/4405) -> accuracy: 46.4699%

Class russia : (2922/4506) -> accuracy: 64.8469%

Class us : (2457/4495) -> accuracy: 54.6607%

Class france : (2163/4572) -> accuracy: 47.3097%

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Epoch: 7/10 ---- best so far on epoch 6: acc=54.2991%

DEV accuracy on epoch 7/10 in train step 506 = 53.5937%

Class turkey : (2938/4422) -> accuracy: 66.4405%

Class germany: (2112/4405) -> accuracy: 47.9455%

Class russia : (2634/4506) -> accuracy: 58.4554%

Class us : (2523/4495) -> accuracy: 56.1290%

Class france : (1798/4572) -> accuracy: 39.3263%

DEV accuracy on epoch 7/10 in train step 1009 = 52.6384%

Class turkey : (2740/4422) -> accuracy: 61.9629%

Class germany: (1845/4405) -> accuracy: 41.8842%

Class russia : (2456/4506) -> accuracy: 54.5051%

Class us : (2688/4495) -> accuracy: 59.7998%

Class france : (2062/4572) -> accuracy: 45.1006%

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Epoch: 8/10 ---- best so far on epoch 6: acc=54.2991%

DEV accuracy on epoch 8/10 in train step 506 = 53.3661%

Class turkey : (2907/4422) -> accuracy: 65.7395%

Class germany: (2088/4405) -> accuracy: 47.4007%

Class russia : (2469/4506) -> accuracy: 54.7936%

Class us : (2474/4495) -> accuracy: 55.0389%

Class france : (2016/4572) -> accuracy: 44.0945%

DEV accuracy on epoch 8/10 in train step 1009 = 53.5045%

Class turkey : (2763/4422) -> accuracy: 62.4830%

Class germany: (1952/4405) -> accuracy: 44.3133%

Class russia : (2789/4506) -> accuracy: 61.8953%

Class us : (2431/4495) -> accuracy: 54.0823%

Class france : (2050/4572) -> accuracy: 44.8381%

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Epoch: 9/10 ---- best so far on epoch 6: acc=54.2991%

DEV accuracy on epoch 9/10 in train step 506 = 52.5536%

Class turkey : (2710/4422) -> accuracy: 61.2845%

Class germany: (1829/4405) -> accuracy: 41.5210%

Class russia : (2404/4506) -> accuracy: 53.3511%

Class us : (2642/4495) -> accuracy: 58.7764%

Class france : (2187/4572) -> accuracy: 47.8346%

DEV accuracy on epoch 9/10 in train step 1009 = 53.2768%

Class turkey : (2819/4422) -> accuracy: 63.7494%

Class germany: (1855/4405) -> accuracy: 42.1112%

Class russia : (2908/4506) -> accuracy: 64.5362%

Class us : (2204/4495) -> accuracy: 49.0323%

Class france : (2148/4572) -> accuracy: 46.9816%

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Epoch: 10/10 ---- best so far on epoch 6: acc=54.2991%

DEV accuracy on epoch 10/10 in train step 506 = 51.9464%

Class turkey : (2664/4422) -> accuracy: 60.2442%

Class germany: (1975/4405) -> accuracy: 44.8354%

Class russia : (2500/4506) -> accuracy: 55.4816%

Class us : (2431/4495) -> accuracy: 54.0823%

Class france : (2066/4572) -> accuracy: 45.1881%

DEV accuracy on epoch 10/10 in train step 1009 = 52.1473%

Class turkey : (2836/4422) -> accuracy: 64.1339%

Class germany: (1820/4405) -> accuracy: 41.3167%

Class russia : (2821/4506) -> accuracy: 62.6054%

Class us : (2190/4495) -> accuracy: 48.7208%

Class france : (2014/4572) -> accuracy: 44.0507%

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\*\*\*Training is complete. Best accuracy 54.2991% at epoch 6/10

\*\*\*Testing...

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

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

Accuracy on test set - (13482/25000) -> accuracy: 53.9280%

Class turkey : (3329/4971) -> accuracy: 66.9684%

Class germany: (2268/5035) -> accuracy: 45.0447%

Class russia : (3151/5020) -> accuracy: 62.7689%

Class us : (2606/4954) -> accuracy: 52.6040%

Class france : (2128/5020) -> accuracy: 42.3904%

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

data:

DATA\_FILE\_PATH is ../input/5way\_tur\_ger\_rus\_fra\_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 5

Total data size is 250000

embedding:

EMB\_FILE\_PATH ../input/glove.6B.50d.txt

EMB\_DIM 50

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 300

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=6 is 54.2991071429

testing acc 53.928

Time(HH:MM:SS): 04:59:09

Leaving function \_\_main\_\_