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: 100

gru\_backward\_cell units: 100

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(400), Dimension(200)]), 80000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(400), Dimension(100)]), 40000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(200)]), 40000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(200)]), 40000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(200)]), 40000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(200)]), 40000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

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(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(400), Dimension(100)]), 40000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(200)]), 40000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(200)]), 40000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(200)]), 40000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/kernel:0', TensorShape([Dimension(200), Dimension(200)]), 40000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/bias:0', TensorShape([Dimension(200)]), 200)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/bias:0', TensorShape([Dimension(100)]), 100)

(u'weight:0', TensorShape([Dimension(200), Dimension(5)]), 1000)

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

total PARAM 724,005

---done vars---

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

DEV accuracy on epoch 1/10 in train step 506 = 49.7321%

Class turkey : (2697/4422) -> accuracy: 60.9905%

Class germany: (1645/4405) -> accuracy: 37.3439%

Class russia : (3064/4506) -> accuracy: 67.9982%

Class us : (2103/4495) -> accuracy: 46.7853%

Class france : (1631/4572) -> accuracy: 35.6737%

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

INFO:root: Best accuracy 49.7321% at epoch 1/10 (11140/22400)

DEV accuracy on epoch 1/10 in train step 1009 = 52.5312%

Class turkey : (2350/4422) -> accuracy: 53.1434%

Class germany: (1912/4405) -> accuracy: 43.4052%

Class russia : (3079/4506) -> accuracy: 68.3311%

Class us : (2716/4495) -> accuracy: 60.4227%

Class france : (1710/4572) -> accuracy: 37.4016%

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

INFO:root: Best accuracy 52.5312% at epoch 1/10 (11767/22400)

Epoch run time: 00:30:17

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Epoch: 2/10 ---- best so far on epoch 1: acc=52.5312%

DEV accuracy on epoch 2/10 in train step 506 = 54.5402%

Class turkey : (3037/4422) -> accuracy: 68.6793%

Class germany: (1623/4405) -> accuracy: 36.8445%

Class russia : (3054/4506) -> accuracy: 67.7763%

Class us : (2069/4495) -> accuracy: 46.0289%

Class france : (2434/4572) -> accuracy: 53.2371%

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

INFO:root: Best accuracy 54.5402% at epoch 2/10 (12217/22400)

DEV accuracy on epoch 2/10 in train step 1009 = 54.9018%

Class turkey : (2506/4422) -> accuracy: 56.6712%

Class germany: (1967/4405) -> accuracy: 44.6538%

Class russia : (3077/4506) -> accuracy: 68.2867%

Class us : (2778/4495) -> accuracy: 61.8020%

Class france : (1970/4572) -> accuracy: 43.0884%

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

INFO:root: Best accuracy 54.9018% at epoch 2/10 (12298/22400)

Epoch run time: 00:30:04

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

Epoch: 3/10 ---- best so far on epoch 2: acc=54.9018%

DEV accuracy on epoch 3/10 in train step 506 = 56.0045%

Class turkey : (3076/4422) -> accuracy: 69.5613%

Class germany: (1815/4405) -> accuracy: 41.2032%

Class russia : (2979/4506) -> accuracy: 66.1119%

Class us : (2246/4495) -> accuracy: 49.9666%

Class france : (2429/4572) -> accuracy: 53.1277%

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

INFO:root: Best accuracy 56.0045% at epoch 3/10 (12545/22400)

DEV accuracy on epoch 3/10 in train step 1009 = 56.4107%

Class turkey : (2600/4422) -> accuracy: 58.7969%

Class germany: (2239/4405) -> accuracy: 50.8286%

Class russia : (3082/4506) -> accuracy: 68.3977%

Class us : (2650/4495) -> accuracy: 58.9544%

Class france : (2065/4572) -> accuracy: 45.1662%

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

INFO:root: Best accuracy 56.4107% at epoch 3/10 (12636/22400)

Epoch run time: 00:30:06

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

Epoch: 4/10 ---- best so far on epoch 3: acc=56.4107%

DEV accuracy on epoch 4/10 in train step 506 = 56.8884%

Class turkey : (3036/4422) -> accuracy: 68.6567%

Class germany: (1903/4405) -> accuracy: 43.2009%

Class russia : (2807/4506) -> accuracy: 62.2947%

Class us : (2479/4495) -> accuracy: 55.1502%

Class france : (2518/4572) -> accuracy: 55.0744%

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

INFO:root: Best accuracy 56.8884% at epoch 4/10 (12743/22400)

DEV accuracy on epoch 4/10 in train step 1009 = 56.8839%

Class turkey : (2803/4422) -> accuracy: 63.3876%

Class germany: (2042/4405) -> accuracy: 46.3564%

Class russia : (2955/4506) -> accuracy: 65.5792%

Class us : (2847/4495) -> accuracy: 63.3370%

Class france : (2095/4572) -> accuracy: 45.8224%

Epoch run time: 00:30:03

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Epoch: 5/10 ---- best so far on epoch 4: acc=56.8884%

DEV accuracy on epoch 5/10 in train step 506 = 57.0938%

Class turkey : (3079/4422) -> accuracy: 69.6291%

Class germany: (2016/4405) -> accuracy: 45.7662%

Class russia : (2666/4506) -> accuracy: 59.1656%

Class us : (2563/4495) -> accuracy: 57.0189%

Class france : (2465/4572) -> accuracy: 53.9151%

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

INFO:root: Best accuracy 57.0938% at epoch 5/10 (12789/22400)

DEV accuracy on epoch 5/10 in train step 1009 = 57.0223%

Class turkey : (2835/4422) -> accuracy: 64.1113%

Class germany: (2051/4405) -> accuracy: 46.5607%

Class russia : (2987/4506) -> accuracy: 66.2894%

Class us : (2756/4495) -> accuracy: 61.3126%

Class france : (2144/4572) -> accuracy: 46.8941%

Epoch run time: 00:30:03

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

Epoch: 6/10 ---- best so far on epoch 5: acc=57.0938%

DEV accuracy on epoch 6/10 in train step 506 = 57.0670%

Class turkey : (3024/4422) -> accuracy: 68.3853%

Class germany: (2067/4405) -> accuracy: 46.9240%

Class russia : (2633/4506) -> accuracy: 58.4332%

Class us : (2502/4495) -> accuracy: 55.6618%

Class france : (2557/4572) -> accuracy: 55.9274%

DEV accuracy on epoch 6/10 in train step 1009 = 57.0134%

Class turkey : (2788/4422) -> accuracy: 63.0484%

Class germany: (2055/4405) -> accuracy: 46.6515%

Class russia : (2999/4506) -> accuracy: 66.5557%

Class us : (2807/4495) -> accuracy: 62.4472%

Class france : (2122/4572) -> accuracy: 46.4129%

Epoch run time: 00:29:59

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Epoch: 7/10 ---- best so far on epoch 5: acc=57.0938%

DEV accuracy on epoch 7/10 in train step 506 = 57.0580%

Class turkey : (3038/4422) -> accuracy: 68.7019%

Class germany: (2097/4405) -> accuracy: 47.6050%

Class russia : (2632/4506) -> accuracy: 58.4110%

Class us : (2581/4495) -> accuracy: 57.4194%

Class france : (2433/4572) -> accuracy: 53.2152%

DEV accuracy on epoch 7/10 in train step 1009 = 57.0759%

Class turkey : (2805/4422) -> accuracy: 63.4328%

Class germany: (2122/4405) -> accuracy: 48.1725%

Class russia : (3030/4506) -> accuracy: 67.2437%

Class us : (2711/4495) -> accuracy: 60.3115%

Class france : (2117/4572) -> accuracy: 46.3036%

Epoch run time: 00:30:00

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Epoch: 8/10 ---- best so far on epoch 5: acc=57.0938%

DEV accuracy on epoch 8/10 in train step 506 = 56.8080%

Class turkey : (2859/4422) -> accuracy: 64.6540%

Class germany: (2057/4405) -> accuracy: 46.6969%

Class russia : (2669/4506) -> accuracy: 59.2321%

Class us : (2590/4495) -> accuracy: 57.6196%

Class france : (2550/4572) -> accuracy: 55.7743%

DEV accuracy on epoch 8/10 in train step 1009 = 57.0134%

Class turkey : (2715/4422) -> accuracy: 61.3976%

Class germany: (2134/4405) -> accuracy: 48.4449%

Class russia : (3039/4506) -> accuracy: 67.4434%

Class us : (2675/4495) -> accuracy: 59.5106%

Class france : (2208/4572) -> accuracy: 48.2940%

Epoch run time: 00:30:00

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

Epoch: 9/10 ---- best so far on epoch 5: acc=57.0938%

DEV accuracy on epoch 9/10 in train step 506 = 56.2768%

Class turkey : (2867/4422) -> accuracy: 64.8349%

Class germany: (1885/4405) -> accuracy: 42.7923%

Class russia : (2640/4506) -> accuracy: 58.5885%

Class us : (2609/4495) -> accuracy: 58.0423%

Class france : (2605/4572) -> accuracy: 56.9773%

DEV accuracy on epoch 9/10 in train step 1009 = 56.9241%

Class turkey : (2774/4422) -> accuracy: 62.7318%

Class germany: (2204/4405) -> accuracy: 50.0341%

Class russia : (3019/4506) -> accuracy: 66.9996%

Class us : (2587/4495) -> accuracy: 57.5528%

Class france : (2167/4572) -> accuracy: 47.3972%

Epoch run time: 00:29:59

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

Epoch: 10/10 ---- best so far on epoch 5: acc=57.0938%

DEV accuracy on epoch 10/10 in train step 506 = 55.9643%

Class turkey : (2990/4422) -> accuracy: 67.6165%

Class germany: (1828/4405) -> accuracy: 41.4983%

Class russia : (2605/4506) -> accuracy: 57.8118%

Class us : (2590/4495) -> accuracy: 57.6196%

Class france : (2523/4572) -> accuracy: 55.1837%

DEV accuracy on epoch 10/10 in train step 1009 = 56.7991%

Class turkey : (2778/4422) -> accuracy: 62.8223%

Class germany: (2111/4405) -> accuracy: 47.9228%

Class russia : (2992/4506) -> accuracy: 66.4004%

Class us : (2595/4495) -> accuracy: 57.7308%

Class france : (2247/4572) -> accuracy: 49.1470%

Epoch run time: 00:29:59

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\*\*\*Training is complete. Best accuracy 57.0938% 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 - (14172/25000) -> accuracy: 56.6880%

Class turkey : (3473/4971) -> accuracy: 69.8652%

Class germany: (2315/5035) -> accuracy: 45.9782%

Class russia : (2941/5020) -> accuracy: 58.5857%

Class us : (2801/4954) -> accuracy: 56.5402%

Class france : (2642/5020) -> accuracy: 52.6295%

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.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 100

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 57.09375

testing acc 56.688

Time(HH:MM:SS): 05:03:46

Leaving function \_\_main\_\_