Entering function \_\_main\_\_

Embedding tokens size=400001

File name 5way\_tur\_ger\_rus\_fra\_usa100K\_25-150. Total data size is 500000

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: 405000, x\_dev: 45000, x\_test: 50000

y\_train: 405000, y\_dev: 45000, y\_test: 50000

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

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

data(after embedding) shape: (200, 150, 300)

gru\_forward\_cell units: 100

gru\_forward\_cell2 units: 100

multi\_forward\_cell: 2 cells

gru\_backward\_cell units: 100

gru\_backward\_cell2 units: 100

multi\_backward\_cell: 2 cells

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/kernel:0', TensorShape([Dimension(400), Dimension(300)]), 120000)

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

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

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

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

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attention/attn\_w:0', TensorShape([Dimension(1), Dimension(1), Dimension(100), Dimension(100)]), 10000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attention/attn\_v:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attention/kernel:0', TensorShape([Dimension(100), Dimension(100)]), 10000)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attn\_output\_projection/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attn\_output\_projection/bias:0', TensorShape([Dimension(100)]), 100)

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

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

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

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

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

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attention/attn\_w:0', TensorShape([Dimension(1), Dimension(1), Dimension(100), Dimension(100)]), 10000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attention/attn\_v:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attention/kernel:0', TensorShape([Dimension(100), Dimension(100)]), 10000)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attn\_output\_projection/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attn\_output\_projection/bias:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/kernel:0', TensorShape([Dimension(400), Dimension(300)]), 120000)

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

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

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

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

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attention/attn\_w:0', TensorShape([Dimension(1), Dimension(1), Dimension(100), Dimension(100)]), 10000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attention/attn\_v:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attention/kernel:0', TensorShape([Dimension(100), Dimension(100)]), 10000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attn\_output\_projection/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/attention\_cell\_wrapper/attn\_output\_projection/bias:0', TensorShape([Dimension(100)]), 100)

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

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

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

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

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

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attention/attn\_w:0', TensorShape([Dimension(1), Dimension(1), Dimension(100), Dimension(100)]), 10000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attention/attn\_v:0', TensorShape([Dimension(100)]), 100)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attention/kernel:0', TensorShape([Dimension(100), Dimension(100)]), 10000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attn\_output\_projection/kernel:0', TensorShape([Dimension(200), Dimension(100)]), 20000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/attention\_cell\_wrapper/attn\_output\_projection/bias:0', TensorShape([Dimension(100)]), 100)

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

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

total PARAM 804,205

---done vars---

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

DEV accuracy on epoch 1/10 in train step 1012 = 49.6689%

Class turkey : (5643/9025) -> accuracy: 62.5263%

Class germany: (3750/8906) -> accuracy: 42.1064%

Class russia : (6126/9026) -> accuracy: 67.8706%

Class us : (3785/9085) -> accuracy: 41.6621%

Class france : (3047/8958) -> accuracy: 34.0143%

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

INFO:root: Best accuracy 49.6689% at epoch 1/10 (22351/45000)

DEV accuracy on epoch 1/10 in train step 2022 = 52.0733%

Class turkey : (5078/9025) -> accuracy: 56.2659%

Class germany: (4623/8906) -> accuracy: 51.9088%

Class russia : (5527/9026) -> accuracy: 61.2342%

Class us : (4446/9085) -> accuracy: 48.9378%

Class france : (3759/8958) -> accuracy: 41.9625%

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

INFO:root: Best accuracy 52.0733% at epoch 1/10 (23433/45000)

Epoch run time: 01:15:21

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Epoch: 2/10 ---- best so far on epoch 1: acc=52.0733%

DEV accuracy on epoch 2/10 in train step 1012 = 53.2511%

Class turkey : (6350/9025) -> accuracy: 70.3601%

Class germany: (3878/8906) -> accuracy: 43.5437%

Class russia : (5626/9026) -> accuracy: 62.3310%

Class us : (4851/9085) -> accuracy: 53.3957%

Class france : (3258/8958) -> accuracy: 36.3697%

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

INFO:root: Best accuracy 53.2511% at epoch 2/10 (23963/45000)

DEV accuracy on epoch 2/10 in train step 2022 = 53.7533%

Class turkey : (4882/9025) -> accuracy: 54.0942%

Class germany: (4632/8906) -> accuracy: 52.0099%

Class russia : (5466/9026) -> accuracy: 60.5584%

Class us : (5055/9085) -> accuracy: 55.6412%

Class france : (4154/8958) -> accuracy: 46.3720%

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

INFO:root: Best accuracy 53.7533% at epoch 2/10 (24189/45000)

Epoch run time: 01:15:06

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Epoch: 3/10 ---- best so far on epoch 2: acc=53.7533%

DEV accuracy on epoch 3/10 in train step 1012 = 54.7822%

Class turkey : (5981/9025) -> accuracy: 66.2715%

Class germany: (4203/8906) -> accuracy: 47.1929%

Class russia : (5803/9026) -> accuracy: 64.2920%

Class us : (4937/9085) -> accuracy: 54.3423%

Class france : (3728/8958) -> accuracy: 41.6164%

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

INFO:root: Best accuracy 54.7822% at epoch 3/10 (24652/45000)

DEV accuracy on epoch 3/10 in train step 2022 = 54.6956%

Class turkey : (5084/9025) -> accuracy: 56.3324%

Class germany: (5221/8906) -> accuracy: 58.6234%

Class russia : (5409/9026) -> accuracy: 59.9269%

Class us : (4953/9085) -> accuracy: 54.5184%

Class france : (3946/8958) -> accuracy: 44.0500%

Epoch run time: 01:15:03

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Epoch: 4/10 ---- best so far on epoch 3: acc=54.7822%

DEV accuracy on epoch 4/10 in train step 1012 = 55.5089%

Class turkey : (6064/9025) -> accuracy: 67.1911%

Class germany: (4390/8906) -> accuracy: 49.2926%

Class russia : (5710/9026) -> accuracy: 63.2617%

Class us : (4605/9085) -> accuracy: 50.6879%

Class france : (4210/8958) -> accuracy: 46.9971%

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

INFO:root: Best accuracy 55.5089% at epoch 4/10 (24979/45000)

DEV accuracy on epoch 4/10 in train step 2022 = 55.1356%

Class turkey : (5160/9025) -> accuracy: 57.1745%

Class germany: (5180/8906) -> accuracy: 58.1630%

Class russia : (5273/9026) -> accuracy: 58.4201%

Class us : (4895/9085) -> accuracy: 53.8800%

Class france : (4303/8958) -> accuracy: 48.0353%

Epoch run time: 01:15:05

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Epoch: 5/10 ---- best so far on epoch 4: acc=55.5089%

DEV accuracy on epoch 5/10 in train step 1012 = 55.5444%

Class turkey : (6168/9025) -> accuracy: 68.3435%

Class germany: (4502/8906) -> accuracy: 50.5502%

Class russia : (5261/9026) -> accuracy: 58.2872%

Class us : (4866/9085) -> accuracy: 53.5608%

Class france : (4198/8958) -> accuracy: 46.8631%

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

INFO:root: Best accuracy 55.5444% at epoch 5/10 (24995/45000)

DEV accuracy on epoch 5/10 in train step 2022 = 26.3400%

Class turkey : (1606/9025) -> accuracy: 17.7950%

Class germany: (2825/8906) -> accuracy: 31.7202%

Class russia : (3683/9026) -> accuracy: 40.8043%

Class us : (3495/9085) -> accuracy: 38.4700%

Class france : (244/8958) -> accuracy: 2.7238%

Epoch run time: 01:15:06

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

Epoch: 6/10 ---- best so far on epoch 5: acc=55.5444%

DEV accuracy on epoch 6/10 in train step 1012 = 27.9867%

Class turkey : (2636/9025) -> accuracy: 29.2078%

Class germany: (3331/8906) -> accuracy: 37.4018%

Class russia : (4908/9026) -> accuracy: 54.3762%

Class us : (317/9085) -> accuracy: 3.4893%

Class france : (1402/8958) -> accuracy: 15.6508%

DEV accuracy on epoch 6/10 in train step 2022 = 28.0511%

Class turkey : (3892/9025) -> accuracy: 43.1247%

Class germany: (2110/8906) -> accuracy: 23.6919%

Class russia : (5524/9026) -> accuracy: 61.2010%

Class us : (971/9085) -> accuracy: 10.6879%

Class france : (126/8958) -> accuracy: 1.4066%

Epoch run time: 01:15:05

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

Epoch: 7/10 ---- best so far on epoch 5: acc=55.5444%

DEV accuracy on epoch 7/10 in train step 1012 = 21.0711%

Class turkey : (8157/9025) -> accuracy: 90.3823%

Class germany: (0/8906) -> accuracy: 0.0000%

Class russia : (652/9026) -> accuracy: 7.2236%

Class us : (578/9085) -> accuracy: 6.3621%

Class france : (95/8958) -> accuracy: 1.0605%

DEV accuracy on epoch 7/10 in train step 2022 = 21.6800%

Class turkey : (6681/9025) -> accuracy: 74.0277%

Class germany: (0/8906) -> accuracy: 0.0000%

Class russia : (243/9026) -> accuracy: 2.6922%

Class us : (2806/9085) -> accuracy: 30.8861%

Class france : (26/8958) -> accuracy: 0.2902%

Epoch run time: 01:15:03

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

Epoch: 8/10 ---- best so far on epoch 5: acc=55.5444%

DEV accuracy on epoch 8/10 in train step 1012 = 21.5244%

Class turkey : (4625/9025) -> accuracy: 51.2465%

Class germany: (0/8906) -> accuracy: 0.0000%

Class russia : (78/9026) -> accuracy: 0.8642%

Class us : (2910/9085) -> accuracy: 32.0308%

Class france : (2073/8958) -> accuracy: 23.1413%

DEV accuracy on epoch 8/10 in train step 2022 = 21.2689%

Class turkey : (4374/9025) -> accuracy: 48.4654%

Class germany: (29/8906) -> accuracy: 0.3256%

Class russia : (499/9026) -> accuracy: 5.5285%

Class us : (4585/9085) -> accuracy: 50.4678%

Class france : (84/8958) -> accuracy: 0.9377%

Epoch run time: 01:15:03

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

\*\*\*Testing...

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

Accuracy on test set - (27750/50000) -> accuracy: 55.5000%

Class turkey : (6778/9957) -> accuracy: 68.0727%

Class germany: (4975/9905) -> accuracy: 50.2272%

Class russia : (5957/10046) -> accuracy: 59.2972%

Class us : (5272/10019) -> accuracy: 52.6200%

Class france : (4768/10073) -> accuracy: 47.3345%

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

data:

DATA\_FILE\_PATH is ../input/5way\_tur\_ger\_rus\_fra\_usa100K\_25-150.txt

MINIMUM\_ROW\_LENGTH is 25

MAXIMUM\_ROW\_LENGTH is 150

COUNT\_WORD is 20

lines\_per\_class is 100000

number of classes is 5

Total data size is 500000

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=0 is 0.0000

testing acc 55.5000

Time(HH:MM:SS): 00:04:53

Leaving function \_\_main\_\_