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)

gru\_forward\_cell units: 125

gru\_backward\_cell units: 125

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(425), Dimension(250)]), 106250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(425), Dimension(125)]), 53125)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(250), Dimension(250)]), 62500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(250), Dimension(125)]), 31250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(250), Dimension(250)]), 62500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(250), Dimension(125)]), 31250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(250), Dimension(250)]), 62500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(250), Dimension(125)]), 31250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/kernel:0', TensorShape([Dimension(250), Dimension(250)]), 62500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/kernel:0', TensorShape([Dimension(250), Dimension(125)]), 31250)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(425), Dimension(250)]), 106250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(425), Dimension(125)]), 53125)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(250), Dimension(250)]), 62500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(250), Dimension(125)]), 31250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(250), Dimension(250)]), 62500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(250), Dimension(125)]), 31250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(250), Dimension(250)]), 62500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(250), Dimension(125)]), 31250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/kernel:0', TensorShape([Dimension(250), Dimension(250)]), 62500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/gates/bias:0', TensorShape([Dimension(250)]), 250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/kernel:0', TensorShape([Dimension(250), Dimension(125)]), 31250)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_4/gru\_cell/candidate/bias:0', TensorShape([Dimension(125)]), 125)

(u'weight:0', TensorShape([Dimension(250), Dimension(5)]), 1250)

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

total PARAM 1,073,755

---done vars---

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

DEV accuracy on epoch 1/10 in train step 1012 = 50.8489%

Class turkey : (5796/9025) -> accuracy: 64.2216%

Class germany: (4129/8906) -> accuracy: 46.3620%

Class russia : (5855/9026) -> accuracy: 64.8682%

Class us : (3789/9085) -> accuracy: 41.7061%

Class france : (3313/8958) -> accuracy: 36.9837%

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

INFO:root: Best accuracy 50.8489% at epoch 1/10 (22882/45000)

DEV accuracy on epoch 1/10 in train step 2022 = 53.6400%

Class turkey : (5822/9025) -> accuracy: 64.5097%

Class germany: (4755/8906) -> accuracy: 53.3910%

Class russia : (4966/9026) -> accuracy: 55.0188%

Class us : (4610/9085) -> accuracy: 50.7430%

Class france : (3985/8958) -> accuracy: 44.4854%

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

INFO:root: Best accuracy 53.6400% at epoch 1/10 (24138/45000)

Epoch run time: 01:06:09

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

Epoch: 2/10 ---- best so far on epoch 1: acc=53.6400%

DEV accuracy on epoch 2/10 in train step 1012 = 54.8467%

Class turkey : (6252/9025) -> accuracy: 69.2742%

Class germany: (4723/8906) -> accuracy: 53.0317%

Class russia : (5462/9026) -> accuracy: 60.5141%

Class us : (4565/9085) -> accuracy: 50.2477%

Class france : (3679/8958) -> accuracy: 41.0694%

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

INFO:root: Best accuracy 54.8467% at epoch 2/10 (24681/45000)

DEV accuracy on epoch 2/10 in train step 2022 = 55.3844%

Class turkey : (5556/9025) -> accuracy: 61.5623%

Class germany: (5066/8906) -> accuracy: 56.8830%

Class russia : (5083/9026) -> accuracy: 56.3151%

Class us : (4800/9085) -> accuracy: 52.8343%

Class france : (4418/8958) -> accuracy: 49.3190%

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

INFO:root: Best accuracy 55.3844% at epoch 2/10 (24923/45000)

Epoch run time: 01:05:54

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

Epoch: 3/10 ---- best so far on epoch 2: acc=55.3844%

DEV accuracy on epoch 3/10 in train step 1012 = 56.1267%

Class turkey : (6312/9025) -> accuracy: 69.9391%

Class germany: (4564/8906) -> accuracy: 51.2464%

Class russia : (5462/9026) -> accuracy: 60.5141%

Class us : (5005/9085) -> accuracy: 55.0908%

Class france : (3914/8958) -> accuracy: 43.6928%

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

INFO:root: Best accuracy 56.1267% at epoch 3/10 (25257/45000)

DEV accuracy on epoch 3/10 in train step 2022 = 56.0578%

Class turkey : (5201/9025) -> accuracy: 57.6288%

Class germany: (4794/8906) -> accuracy: 53.8289%

Class russia : (5514/9026) -> accuracy: 61.0902%

Class us : (4852/9085) -> accuracy: 53.4067%

Class france : (4865/8958) -> accuracy: 54.3090%

Epoch run time: 01:05:52

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

Epoch: 4/10 ---- best so far on epoch 3: acc=56.1267%

DEV accuracy on epoch 4/10 in train step 1012 = 56.6600%

Class turkey : (6278/9025) -> accuracy: 69.5623%

Class germany: (4773/8906) -> accuracy: 53.5931%

Class russia : (5394/9026) -> accuracy: 59.7607%

Class us : (4844/9085) -> accuracy: 53.3187%

Class france : (4208/8958) -> accuracy: 46.9748%

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

INFO:root: Best accuracy 56.6600% at epoch 4/10 (25497/45000)

DEV accuracy on epoch 4/10 in train step 2022 = 56.3422%

Class turkey : (5305/9025) -> accuracy: 58.7812%

Class germany: (4983/8906) -> accuracy: 55.9510%

Class russia : (5353/9026) -> accuracy: 59.3064%

Class us : (4792/9085) -> accuracy: 52.7463%

Class france : (4921/8958) -> accuracy: 54.9341%

Epoch run time: 01:05:53

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

Epoch: 5/10 ---- best so far on epoch 4: acc=56.6600%

DEV accuracy on epoch 5/10 in train step 1012 = 56.6933%

Class turkey : (6354/9025) -> accuracy: 70.4044%

Class germany: (4807/8906) -> accuracy: 53.9748%

Class russia : (5401/9026) -> accuracy: 59.8382%

Class us : (4991/9085) -> accuracy: 54.9367%

Class france : (3959/8958) -> accuracy: 44.1951%

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

INFO:root: Best accuracy 56.6933% at epoch 5/10 (25512/45000)

DEV accuracy on epoch 5/10 in train step 2022 = 56.9178%

Class turkey : (5566/9025) -> accuracy: 61.6731%

Class germany: (5002/8906) -> accuracy: 56.1644%

Class russia : (5649/9026) -> accuracy: 62.5859%

Class us : (4998/9085) -> accuracy: 55.0138%

Class france : (4398/8958) -> accuracy: 49.0958%

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

INFO:root: Best accuracy 56.9178% at epoch 5/10 (25613/45000)

Epoch run time: 01:05:55

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

Epoch: 6/10 ---- best so far on epoch 5: acc=56.9178%

DEV accuracy on epoch 6/10 in train step 1012 = 56.7578%

Class turkey : (6207/9025) -> accuracy: 68.7756%

Class germany: (4643/8906) -> accuracy: 52.1334%

Class russia : (5441/9026) -> accuracy: 60.2814%

Class us : (5003/9085) -> accuracy: 55.0688%

Class france : (4247/8958) -> accuracy: 47.4101%

DEV accuracy on epoch 6/10 in train step 2022 = 56.9022%

Class turkey : (5556/9025) -> accuracy: 61.5623%

Class germany: (4970/8906) -> accuracy: 55.8051%

Class russia : (6030/9026) -> accuracy: 66.8070%

Class us : (4804/9085) -> accuracy: 52.8784%

Class france : (4246/8958) -> accuracy: 47.3990%

Epoch run time: 01:05:50

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

Epoch: 7/10 ---- best so far on epoch 5: acc=56.9178%

DEV accuracy on epoch 7/10 in train step 1012 = 56.6333%

Class turkey : (6161/9025) -> accuracy: 68.2659%

Class germany: (4577/8906) -> accuracy: 51.3923%

Class russia : (5411/9026) -> accuracy: 59.9490%

Class us : (4869/9085) -> accuracy: 53.5938%

Class france : (4467/8958) -> accuracy: 49.8660%

DEV accuracy on epoch 7/10 in train step 2022 = 56.7956%

Class turkey : (5825/9025) -> accuracy: 64.5429%

Class germany: (4749/8906) -> accuracy: 53.3236%

Class russia : (6091/9026) -> accuracy: 67.4828%

Class us : (4765/9085) -> accuracy: 52.4491%

Class france : (4128/8958) -> accuracy: 46.0817%

Epoch run time: 01:05:50

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

Epoch: 8/10 ---- best so far on epoch 5: acc=56.9178%

DEV accuracy on epoch 8/10 in train step 1012 = 55.2956%

Class turkey : (6161/9025) -> accuracy: 68.2659%

Class germany: (3107/8906) -> accuracy: 34.8866%

Class russia : (5427/9026) -> accuracy: 60.1263%

Class us : (5186/9085) -> accuracy: 57.0831%

Class france : (5002/8958) -> accuracy: 55.8384%

DEV accuracy on epoch 8/10 in train step 2022 = 56.4733%

Class turkey : (6063/9025) -> accuracy: 67.1801%

Class germany: (4863/8906) -> accuracy: 54.6036%

Class russia : (5678/9026) -> accuracy: 62.9072%

Class us : (4576/9085) -> accuracy: 50.3687%

Class france : (4233/8958) -> accuracy: 47.2539%

Epoch run time: 01:05:52

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

Epoch: 9/10 ---- best so far on epoch 5: acc=56.9178%

DEV accuracy on epoch 9/10 in train step 1012 = 55.6089%

Class turkey : (5787/9025) -> accuracy: 64.1219%

Class germany: (4684/8906) -> accuracy: 52.5938%

Class russia : (5220/9026) -> accuracy: 57.8329%

Class us : (5004/9085) -> accuracy: 55.0798%

Class france : (4329/8958) -> accuracy: 48.3255%

DEV accuracy on epoch 9/10 in train step 2022 = 56.4222%

Class turkey : (5976/9025) -> accuracy: 66.2161%

Class germany: (4641/8906) -> accuracy: 52.1109%

Class russia : (5450/9026) -> accuracy: 60.3811%

Class us : (4815/9085) -> accuracy: 52.9994%

Class france : (4508/8958) -> accuracy: 50.3237%

Epoch run time: 01:05:51

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

Epoch: 10/10 ---- best so far on epoch 5: acc=56.9178%

DEV accuracy on epoch 10/10 in train step 1012 = 55.6556%

Class turkey : (5686/9025) -> accuracy: 63.0028%

Class germany: (4669/8906) -> accuracy: 52.4253%

Class russia : (5813/9026) -> accuracy: 64.4028%

Class us : (4896/9085) -> accuracy: 53.8910%

Class france : (3981/8958) -> accuracy: 44.4407%

DEV accuracy on epoch 10/10 in train step 2022 = 56.2667%

Class turkey : (5946/9025) -> accuracy: 65.8837%

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

Class russia : (5537/9026) -> accuracy: 61.3450%

Class us : (5023/9085) -> accuracy: 55.2889%

Class france : (4191/8958) -> accuracy: 46.7850%

Epoch run time: 01:05:49

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

\*\*\*Training is complete. Best accuracy 56.9178% 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 - (28340/50000) -> accuracy: 56.6800%

Class turkey : (6003/9957) -> accuracy: 60.2892%

Class germany: (5578/9905) -> accuracy: 56.3150%

Class russia : (6336/10046) -> accuracy: 63.0699%

Class us : (5499/10019) -> accuracy: 54.8857%

Class france : (4924/10073) -> accuracy: 48.8832%

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 125

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 56.9177777778

testing acc 56.68

Time(HH:MM:SS): 11:03:53

Leaving function \_\_main\_\_