Entering function \_\_main\_\_

Embedding tokens size=400001

File name 5way\_tur\_ger\_rus\_fra\_usa100K\_5-100. 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, 100)

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)

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(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 1012 = 43.7222%

Class turkey : (5275/9055) -> accuracy: 58.2551%

Class germany: (2524/8930) -> accuracy: 28.2643%

Class russia : (4134/9033) -> accuracy: 45.7655%

Class us : (4542/9106) -> accuracy: 49.8792%

Class france : (3200/8876) -> accuracy: 36.0523%

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

INFO:root: Best accuracy 43.7222% at epoch 1/10 (19675/45000)

DEV accuracy on epoch 1/10 in train step 2022 = 45.1089%

Class turkey : (5286/9055) -> accuracy: 58.3766%

Class germany: (3426/8930) -> accuracy: 38.3651%

Class russia : (3889/9033) -> accuracy: 43.0532%

Class us : (3487/9106) -> accuracy: 38.2934%

Class france : (4211/8876) -> accuracy: 47.4425%

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

INFO:root: Best accuracy 45.1089% at epoch 1/10 (20299/45000)

Epoch run time: 00:40:42

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Epoch: 2/10 ---- best so far on epoch 1: acc=45.1089%

DEV accuracy on epoch 2/10 in train step 1012 = 45.9267%

Class turkey : (5176/9055) -> accuracy: 57.1618%

Class germany: (3263/8930) -> accuracy: 36.5398%

Class russia : (4358/9033) -> accuracy: 48.2453%

Class us : (4471/9106) -> accuracy: 49.0995%

Class france : (3399/8876) -> accuracy: 38.2943%

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

INFO:root: Best accuracy 45.9267% at epoch 2/10 (20667/45000)

DEV accuracy on epoch 2/10 in train step 2022 = 46.1289%

Class turkey : (5595/9055) -> accuracy: 61.7891%

Class germany: (3291/8930) -> accuracy: 36.8533%

Class russia : (4231/9033) -> accuracy: 46.8394%

Class us : (3721/9106) -> accuracy: 40.8632%

Class france : (3920/8876) -> accuracy: 44.1640%

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

INFO:root: Best accuracy 46.1289% at epoch 2/10 (20758/45000)

Epoch run time: 00:40:32

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Epoch: 3/10 ---- best so far on epoch 2: acc=46.1289%

DEV accuracy on epoch 3/10 in train step 1012 = 46.8489%

Class turkey : (5024/9055) -> accuracy: 55.4832%

Class germany: (3883/8930) -> accuracy: 43.4826%

Class russia : (4466/9033) -> accuracy: 49.4409%

Class us : (4025/9106) -> accuracy: 44.2016%

Class france : (3684/8876) -> accuracy: 41.5052%

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

INFO:root: Best accuracy 46.8489% at epoch 3/10 (21082/45000)

DEV accuracy on epoch 3/10 in train step 2022 = 46.6467%

Class turkey : (5668/9055) -> accuracy: 62.5953%

Class germany: (3379/8930) -> accuracy: 37.8387%

Class russia : (4194/9033) -> accuracy: 46.4298%

Class us : (4188/9106) -> accuracy: 45.9917%

Class france : (3562/8876) -> accuracy: 40.1307%

Epoch run time: 00:40:29

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Epoch: 4/10 ---- best so far on epoch 3: acc=46.8489%

DEV accuracy on epoch 4/10 in train step 1012 = 47.0000%

Class turkey : (5068/9055) -> accuracy: 55.9691%

Class germany: (3566/8930) -> accuracy: 39.9328%

Class russia : (4767/9033) -> accuracy: 52.7732%

Class us : (4122/9106) -> accuracy: 45.2669%

Class france : (3627/8876) -> accuracy: 40.8630%

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

INFO:root: Best accuracy 47.0000% at epoch 4/10 (21150/45000)

DEV accuracy on epoch 4/10 in train step 2022 = 47.0267%

Class turkey : (5651/9055) -> accuracy: 62.4075%

Class germany: (3384/8930) -> accuracy: 37.8947%

Class russia : (4167/9033) -> accuracy: 46.1309%

Class us : (4336/9106) -> accuracy: 47.6170%

Class france : (3624/8876) -> accuracy: 40.8292%

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

INFO:root: Best accuracy 47.0267% at epoch 4/10 (21162/45000)

Epoch run time: 00:40:31

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Epoch: 5/10 ---- best so far on epoch 4: acc=47.0267%

DEV accuracy on epoch 5/10 in train step 1012 = 47.0800%

Class turkey : (5112/9055) -> accuracy: 56.4550%

Class germany: (3600/8930) -> accuracy: 40.3135%

Class russia : (4740/9033) -> accuracy: 52.4743%

Class us : (4102/9106) -> accuracy: 45.0472%

Class france : (3632/8876) -> accuracy: 40.9193%

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

INFO:root: Best accuracy 47.0800% at epoch 5/10 (21186/45000)

DEV accuracy on epoch 5/10 in train step 2022 = 46.7200%

Class turkey : (5624/9055) -> accuracy: 62.1093%

Class germany: (3433/8930) -> accuracy: 38.4434%

Class russia : (3949/9033) -> accuracy: 43.7175%

Class us : (4546/9106) -> accuracy: 49.9231%

Class france : (3472/8876) -> accuracy: 39.1167%

Epoch run time: 00:40:24

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Epoch: 6/10 ---- best so far on epoch 5: acc=47.0800%

DEV accuracy on epoch 6/10 in train step 1012 = 46.9667%

Class turkey : (5099/9055) -> accuracy: 56.3114%

Class germany: (3398/8930) -> accuracy: 38.0515%

Class russia : (4879/9033) -> accuracy: 54.0131%

Class us : (3795/9106) -> accuracy: 41.6758%

Class france : (3964/8876) -> accuracy: 44.6598%

DEV accuracy on epoch 6/10 in train step 2022 = 46.7444%

Class turkey : (5575/9055) -> accuracy: 61.5682%

Class germany: (3456/8930) -> accuracy: 38.7010%

Class russia : (3926/9033) -> accuracy: 43.4629%

Class us : (4295/9106) -> accuracy: 47.1667%

Class france : (3783/8876) -> accuracy: 42.6205%

Epoch run time: 00:40:21

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Epoch: 7/10 ---- best so far on epoch 5: acc=47.0800%

DEV accuracy on epoch 7/10 in train step 1012 = 46.8911%

Class turkey : (5234/9055) -> accuracy: 57.8023%

Class germany: (3497/8930) -> accuracy: 39.1601%

Class russia : (4790/9033) -> accuracy: 53.0278%

Class us : (3864/9106) -> accuracy: 42.4336%

Class france : (3716/8876) -> accuracy: 41.8657%

DEV accuracy on epoch 7/10 in train step 2022 = 46.6200%

Class turkey : (5548/9055) -> accuracy: 61.2700%

Class germany: (3339/8930) -> accuracy: 37.3908%

Class russia : (3904/9033) -> accuracy: 43.2193%

Class us : (4281/9106) -> accuracy: 47.0130%

Class france : (3907/8876) -> accuracy: 44.0176%

Epoch run time: 00:40:22

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Epoch: 8/10 ---- best so far on epoch 5: acc=47.0800%

DEV accuracy on epoch 8/10 in train step 1012 = 46.9156%

Class turkey : (5229/9055) -> accuracy: 57.7471%

Class germany: (3572/8930) -> accuracy: 40.0000%

Class russia : (4713/9033) -> accuracy: 52.1754%

Class us : (4030/9106) -> accuracy: 44.2565%

Class france : (3568/8876) -> accuracy: 40.1983%

DEV accuracy on epoch 8/10 in train step 2022 = 46.5111%

Class turkey : (5735/9055) -> accuracy: 63.3352%

Class germany: (3312/8930) -> accuracy: 37.0885%

Class russia : (3869/9033) -> accuracy: 42.8318%

Class us : (4424/9106) -> accuracy: 48.5834%

Class france : (3590/8876) -> accuracy: 40.4461%

Epoch run time: 00:40:23

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Epoch: 9/10 ---- best so far on epoch 5: acc=47.0800%

DEV accuracy on epoch 9/10 in train step 1012 = 46.4533%

Class turkey : (5292/9055) -> accuracy: 58.4428%

Class germany: (3285/8930) -> accuracy: 36.7861%

Class russia : (4775/9033) -> accuracy: 52.8617%

Class us : (3948/9106) -> accuracy: 43.3560%

Class france : (3604/8876) -> accuracy: 40.6039%

DEV accuracy on epoch 9/10 in train step 2022 = 46.4556%

Class turkey : (5125/9055) -> accuracy: 56.5986%

Class germany: (3679/8930) -> accuracy: 41.1982%

Class russia : (4133/9033) -> accuracy: 45.7545%

Class us : (4630/9106) -> accuracy: 50.8456%

Class france : (3338/8876) -> accuracy: 37.6070%

Epoch run time: 00:40:22

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Epoch: 10/10 ---- best so far on epoch 5: acc=47.0800%

DEV accuracy on epoch 10/10 in train step 1012 = 46.3489%

Class turkey : (5361/9055) -> accuracy: 59.2049%

Class germany: (3618/8930) -> accuracy: 40.5151%

Class russia : (4803/9033) -> accuracy: 53.1717%

Class us : (3854/9106) -> accuracy: 42.3237%

Class france : (3221/8876) -> accuracy: 36.2889%

DEV accuracy on epoch 10/10 in train step 2022 = 46.1622%

Class turkey : (5432/9055) -> accuracy: 59.9890%

Class germany: (3191/8930) -> accuracy: 35.7335%

Class russia : (4102/9033) -> accuracy: 45.4113%

Class us : (4505/9106) -> accuracy: 49.4729%

Class france : (3543/8876) -> accuracy: 39.9166%

Epoch run time: 00:40:23

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\*\*\*Training is complete. Best accuracy 47.0800% 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 - (23809/50000) -> accuracy: 47.6180%

Class turkey : (5721/10017) -> accuracy: 57.1129%

Class germany: (4113/9997) -> accuracy: 41.1423%

Class russia : (5193/9809) -> accuracy: 52.9412%

Class us : (4589/10023) -> accuracy: 45.7847%

Class france : (4193/10154) -> accuracy: 41.2941%

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

data:

DATA\_FILE\_PATH is ../input/5way\_tur\_ger\_rus\_fra\_usa100K\_5-100.txt

MINIMUM\_ROW\_LENGTH is 5

MAXIMUM\_ROW\_LENGTH is 100

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=5 is 47.0800

testing acc 47.6180

Time(HH:MM:SS): 06:48:14

Leaving function \_\_main\_\_