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: (400, 150)

input\_labels\_batch shape: (400, 5)

data(after embedding) shape: (400, 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/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/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(400), Dimension(200)]), 80000)

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

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

total PARAM 362,205

---done vars---

batches\_num\_train: 1012

batches\_num\_dev: 112

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

DEV accuracy on epoch 1/10 in train step 506 = 31.7210%

Dev loss average for this epoch is 149.8857 and average acc is 31.7210

Class turkey : (925/9028) -> accuracy: 10.2459%

Class germany: (2899/8911) -> accuracy: 32.5328%

Class russia : (5654/8912) -> accuracy: 63.4425%

Class us : (4717/9018) -> accuracy: 52.3065%

Class france : (16/8931) -> accuracy: 0.1792%

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

INFO:root: Best accuracy 31.7210% at epoch 1/10 (14211/44800)

DEV accuracy on epoch 1/10 in train step 1009 = 48.6607%

Dev loss average for this epoch is 55.9458 and average acc is 48.6607

Class turkey : (4868/9028) -> accuracy: 53.9211%

Class germany: (3532/8911) -> accuracy: 39.6364%

Class russia : (6487/8912) -> accuracy: 72.7895%

Class us : (3784/9018) -> accuracy: 41.9605%

Class france : (3129/8931) -> accuracy: 35.0353%

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

INFO:root: Best accuracy 48.6607% at epoch 1/10 (21800/44800)

Epoch run time: 00:16:43

Train average loss for this epoch is 173.6842 and average acc is 30.6769

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Epoch: 2/10 ---- best so far on epoch 1: acc=48.6607%

DEV accuracy on epoch 2/10 in train step 506 = 50.8482%

Dev loss average for this epoch is 19.2808 and average acc is 50.8482

Class turkey : (4705/9028) -> accuracy: 52.1156%

Class germany: (4590/8911) -> accuracy: 51.5094%

Class russia : (4618/8912) -> accuracy: 51.8178%

Class us : (5019/9018) -> accuracy: 55.6554%

Class france : (3848/8931) -> accuracy: 43.0859%

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

INFO:root: Best accuracy 50.8482% at epoch 2/10 (22780/44800)

DEV accuracy on epoch 2/10 in train step 1009 = 52.6161%

Dev loss average for this epoch is 6.3857 and average acc is 52.6161

Class turkey : (5809/9028) -> accuracy: 64.3443%

Class germany: (3632/8911) -> accuracy: 40.7586%

Class russia : (5918/8912) -> accuracy: 66.4048%

Class us : (4827/9018) -> accuracy: 53.5263%

Class france : (3386/8931) -> accuracy: 37.9129%

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

INFO:root: Best accuracy 52.6161% at epoch 2/10 (23572/44800)

Epoch run time: 00:16:32

Train average loss for this epoch is 23.1999 and average acc is 49.6275

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Epoch: 3/10 ---- best so far on epoch 2: acc=52.6161%

DEV accuracy on epoch 3/10 in train step 506 = 52.6652%

Dev loss average for this epoch is 2.4063 and average acc is 52.6652

Class turkey : (4714/9028) -> accuracy: 52.2153%

Class germany: (4235/8911) -> accuracy: 47.5255%

Class russia : (4983/8912) -> accuracy: 55.9134%

Class us : (5500/9018) -> accuracy: 60.9891%

Class france : (4162/8931) -> accuracy: 46.6017%

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

INFO:root: Best accuracy 52.6652% at epoch 3/10 (23594/44800)

DEV accuracy on epoch 3/10 in train step 1009 = 54.0960%

Dev loss average for this epoch is 1.4525 and average acc is 54.0960

Class turkey : (5891/9028) -> accuracy: 65.2525%

Class germany: (4761/8911) -> accuracy: 53.4283%

Class russia : (5865/8912) -> accuracy: 65.8101%

Class us : (4025/9018) -> accuracy: 44.6330%

Class france : (3693/8931) -> accuracy: 41.3504%

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

INFO:root: Best accuracy 54.0960% at epoch 3/10 (24235/44800)

Epoch run time: 00:16:29

Train average loss for this epoch is 2.9269 and average acc is 52.6596

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Epoch: 4/10 ---- best so far on epoch 3: acc=54.0960%

DEV accuracy on epoch 4/10 in train step 506 = 54.4397%

Dev loss average for this epoch is 1.2987 and average acc is 54.4397

Class turkey : (5239/9028) -> accuracy: 58.0306%

Class germany: (4291/8911) -> accuracy: 48.1540%

Class russia : (5398/8912) -> accuracy: 60.5700%

Class us : (5402/9018) -> accuracy: 59.9024%

Class france : (4059/8931) -> accuracy: 45.4484%

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

INFO:root: Best accuracy 54.4397% at epoch 4/10 (24389/44800)

DEV accuracy on epoch 4/10 in train step 1009 = 54.5179%

Dev loss average for this epoch is 1.2700 and average acc is 54.5179

Class turkey : (6032/9028) -> accuracy: 66.8144%

Class germany: (4758/8911) -> accuracy: 53.3947%

Class russia : (5920/8912) -> accuracy: 66.4273%

Class us : (3788/9018) -> accuracy: 42.0049%

Class france : (3926/8931) -> accuracy: 43.9592%

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

INFO:root: Best accuracy 54.5179% at epoch 4/10 (24424/44800)

Epoch run time: 00:16:30

Train average loss for this epoch is 1.3381 and average acc is 54.2295

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Epoch: 5/10 ---- best so far on epoch 4: acc=54.5179%

DEV accuracy on epoch 5/10 in train step 506 = 55.2612%

Dev loss average for this epoch is 1.2654 and average acc is 55.2612

Class turkey : (5678/9028) -> accuracy: 62.8932%

Class germany: (5100/8911) -> accuracy: 57.2326%

Class russia : (5017/8912) -> accuracy: 56.2949%

Class us : (4879/9018) -> accuracy: 54.1029%

Class france : (4083/8931) -> accuracy: 45.7172%

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

INFO:root: Best accuracy 55.2612% at epoch 5/10 (24757/44800)

DEV accuracy on epoch 5/10 in train step 1009 = 55.1027%

Dev loss average for this epoch is 1.2619 and average acc is 55.1027

Class turkey : (6480/9028) -> accuracy: 71.7767%

Class germany: (4425/8911) -> accuracy: 49.6577%

Class russia : (5489/8912) -> accuracy: 61.5911%

Class us : (4081/9018) -> accuracy: 45.2539%

Class france : (4211/8931) -> accuracy: 47.1504%

Epoch run time: 00:16:27

Train average loss for this epoch is 1.2794 and average acc is 55.4289

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Epoch: 6/10 ---- best so far on epoch 5: acc=55.2612%

DEV accuracy on epoch 6/10 in train step 506 = 55.5848%

Dev loss average for this epoch is 1.2545 and average acc is 55.5848

Class turkey : (5405/9028) -> accuracy: 59.8693%

Class germany: (4810/8911) -> accuracy: 53.9782%

Class russia : (5776/8912) -> accuracy: 64.8115%

Class us : (4583/9018) -> accuracy: 50.8206%

Class france : (4328/8931) -> accuracy: 48.4604%

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

INFO:root: Best accuracy 55.5848% at epoch 6/10 (24902/44800)

DEV accuracy on epoch 6/10 in train step 1009 = 55.5536%

Dev loss average for this epoch is 1.2528 and average acc is 55.5536

Class turkey : (6075/9028) -> accuracy: 67.2907%

Class germany: (4810/8911) -> accuracy: 53.9782%

Class russia : (5602/8912) -> accuracy: 62.8591%

Class us : (4901/9018) -> accuracy: 54.3469%

Class france : (3500/8931) -> accuracy: 39.1893%

Epoch run time: 00:16:27

Train average loss for this epoch is 1.2624 and average acc is 56.4988

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Epoch: 7/10 ---- best so far on epoch 6: acc=55.5848%

DEV accuracy on epoch 7/10 in train step 506 = 55.8728%

Dev loss average for this epoch is 1.2508 and average acc is 55.8728

Class turkey : (5648/9028) -> accuracy: 62.5609%

Class germany: (4953/8911) -> accuracy: 55.5830%

Class russia : (5346/8912) -> accuracy: 59.9865%

Class us : (4992/9018) -> accuracy: 55.3560%

Class france : (4092/8931) -> accuracy: 45.8179%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 7

INFO:root: Best accuracy 55.8728% at epoch 7/10 (25031/44800)

DEV accuracy on epoch 7/10 in train step 1009 = 55.5290%

Dev loss average for this epoch is 1.2539 and average acc is 55.5290

Class turkey : (6406/9028) -> accuracy: 70.9570%

Class germany: (4914/8911) -> accuracy: 55.1453%

Class russia : (5376/8912) -> accuracy: 60.3232%

Class us : (4124/9018) -> accuracy: 45.7308%

Class france : (4057/8931) -> accuracy: 45.4260%

Epoch run time: 00:16:27

Train average loss for this epoch is 1.2488 and average acc is 57.4921

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Epoch: 8/10 ---- best so far on epoch 7: acc=55.8728%

DEV accuracy on epoch 8/10 in train step 506 = 55.9710%

Dev loss average for this epoch is 1.2502 and average acc is 55.9710

Class turkey : (5453/9028) -> accuracy: 60.4010%

Class germany: (4973/8911) -> accuracy: 55.8074%

Class russia : (5580/8912) -> accuracy: 62.6122%

Class us : (4785/9018) -> accuracy: 53.0605%

Class france : (4284/8931) -> accuracy: 47.9678%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 8

INFO:root: Best accuracy 55.9710% at epoch 8/10 (25075/44800)

DEV accuracy on epoch 8/10 in train step 1009 = 55.4531%

Dev loss average for this epoch is 1.2618 and average acc is 55.4531

Class turkey : (6561/9028) -> accuracy: 72.6739%

Class germany: (5109/8911) -> accuracy: 57.3336%

Class russia : (5145/8912) -> accuracy: 57.7311%

Class us : (3906/9018) -> accuracy: 43.3134%

Class france : (4122/8931) -> accuracy: 46.1538%

Epoch run time: 00:16:27

Train average loss for this epoch is 1.2371 and average acc is 58.3350

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Epoch: 9/10 ---- best so far on epoch 8: acc=55.9710%

DEV accuracy on epoch 9/10 in train step 506 = 55.8504%

Dev loss average for this epoch is 1.2538 and average acc is 55.8504

Class turkey : (5265/9028) -> accuracy: 58.3186%

Class germany: (4883/8911) -> accuracy: 54.7974%

Class russia : (5574/8912) -> accuracy: 62.5449%

Class us : (4839/9018) -> accuracy: 53.6593%

Class france : (4460/8931) -> accuracy: 49.9384%

DEV accuracy on epoch 9/10 in train step 1009 = 55.7187%

Dev loss average for this epoch is 1.2562 and average acc is 55.7188

Class turkey : (6548/9028) -> accuracy: 72.5299%

Class germany: (5022/8911) -> accuracy: 56.3573%

Class russia : (5392/8912) -> accuracy: 60.5027%

Class us : (4579/9018) -> accuracy: 50.7762%

Class france : (3421/8931) -> accuracy: 38.3048%

Epoch run time: 00:16:25

Train average loss for this epoch is 1.2261 and average acc is 59.0875

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Epoch: 10/10 ---- best so far on epoch 8: acc=55.9710%

DEV accuracy on epoch 10/10 in train step 506 = 56.1004%

Dev loss average for this epoch is 1.2511 and average acc is 56.1004

Class turkey : (5438/9028) -> accuracy: 60.2348%

Class germany: (4677/8911) -> accuracy: 52.4857%

Class russia : (6092/8912) -> accuracy: 68.3573%

Class us : (4694/9018) -> accuracy: 52.0515%

Class france : (4232/8931) -> accuracy: 47.3855%

INFO:root: Saved model ../model\_temp/model.ckpt at epoch 10

INFO:root: Best accuracy 56.1004% at epoch 10/10 (25133/44800)

DEV accuracy on epoch 10/10 in train step 1009 = 55.9866%

Dev loss average for this epoch is 1.2512 and average acc is 55.9866

Class turkey : (6284/9028) -> accuracy: 69.6057%

Class germany: (4569/8911) -> accuracy: 51.2737%

Class russia : (5679/8912) -> accuracy: 63.7231%

Class us : (4781/9018) -> accuracy: 53.0162%

Class france : (3769/8931) -> accuracy: 42.2013%

Epoch run time: 00:16:27

Train average loss for this epoch is 1.2163 and average acc is 59.7097

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\*\*\*Training is complete. Best accuracy 56.1004% at epoch 10/10

\*\*\*Testing...

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

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

Test loss average for this epoch is 1.2448 and average acc is 56.1720

Accuracy on test set - (28086/50000) -> accuracy: 56.1720%

Class turkey : (6017/9980) -> accuracy: 60.2906%

Class germany: (5230/9980) -> accuracy: 52.4048%

Class russia : (6986/10080) -> accuracy: 69.3056%

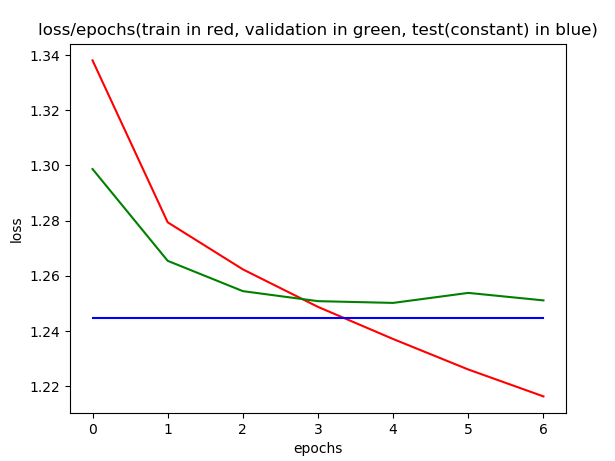
Class us : (5164/10015) -> accuracy: 51.5627%

Class france : (4689/9945) -> accuracy: 47.1493%

[23.1999261737341, 2.9269434122935585, 1.3380585612044504, 1.2793897621245252, 1.2623555750950524, 1.2487501844822653, 1.2371093945305338, 1.2260708832458074, 1.2163218354047993]

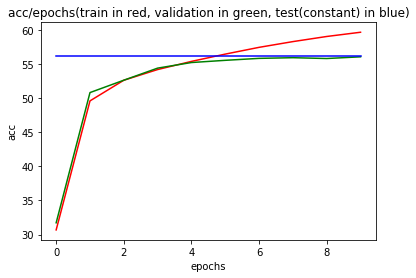
[19.280841946601868, 2.406273916363716, 1.2986950842397553, 1.2654403554541724, 1.2544584880982126, 1.2508299733911241, 1.2501956203154154, 1.2538230184997832, 1.251106848674161]

[1.244830014228821, 1.244830014228821, 1.244830014228821, 1.244830014228821, 1.244830014228821, 1.244830014228821, 1.244830014228821, 1.244830014228821, 1.244830014228821]

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[31.720982119441032, 50.84821424846139, 52.665178504373344, 54.439732325928546, 55.26116101869515, 55.58482158396926, 55.87276789758887, 55.97098224929401, 55.850446437086376, 56.100446411541526]

[56.172000074386595, 56.172000074386595, 56.172000074386595, 56.172000074386595, 56.172000074386595, 56.172000074386595, 56.172000074386595, 56.172000074386595, 56.172000074386595, 56.172000074386595]

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 0.15

BATCH\_SIZE 400

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=10 is 56.1004

testing acc 56.1720

Time(HH:MM:SS): 02:47:54