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: 300

gru\_forward\_cell2 units: 300

multi\_forward\_cell: 2 cells

gru\_backward\_cell units: 300

gru\_backward\_cell2 units: 300

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(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(600), Dimension(600)]), 360000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/bias:0', TensorShape([Dimension(600)]), 600)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(600), Dimension(300)]), 180000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(300)]), 300)

(u'Variable:0', TensorShape([Dimension(600), Dimension(5)]), 3000)

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

total PARAM 2,166,605

---done vars---

batches\_num\_train: 2025

batches\_num\_dev: 225

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

DEV accuracy on epoch 1/10 in train step 1012 = 49.9978%

Dev loss average for this epoch is 161.9574 and average acc is 49.9978

Class turkey : (6256/9069) -> accuracy: 68.9822%

Class germany: (4931/9015) -> accuracy: 54.6977%

Class russia : (3940/8924) -> accuracy: 44.1506%

Class us : (3451/9039) -> accuracy: 38.1790%

Class france : (3921/8953) -> accuracy: 43.7954%

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

INFO:root: Best accuracy 49.9978% at epoch 1/10 (22499/45000)

DEV accuracy on epoch 1/10 in train step 2022 = 53.7756%

Dev loss average for this epoch is 15.7693 and average acc is 53.7756

Class turkey : (6419/9069) -> accuracy: 70.7796%

Class germany: (4602/9015) -> accuracy: 51.0483%

Class russia : (5319/8924) -> accuracy: 59.6033%

Class us : (4021/9039) -> accuracy: 44.4850%

Class france : (3838/8953) -> accuracy: 42.8683%

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

INFO:root: Best accuracy 53.7756% at epoch 1/10 (24199/45000)

Epoch run time: 00:43:22

Train average loss for this epoch is 288.8980 and average acc is 42.2805

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Epoch: 2/10 ---- best so far on epoch 1: acc=53.7756%

DEV accuracy on epoch 2/10 in train step 1012 = 54.8644%

Dev loss average for this epoch is 1.6854 and average acc is 54.8644

Class turkey : (6341/9069) -> accuracy: 69.9195%

Class germany: (4979/9015) -> accuracy: 55.2302%

Class russia : (5073/8924) -> accuracy: 56.8467%

Class us : (4061/9039) -> accuracy: 44.9275%

Class france : (4235/8953) -> accuracy: 47.3026%

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

INFO:root: Best accuracy 54.8644% at epoch 2/10 (24689/45000)

DEV accuracy on epoch 2/10 in train step 2022 = 55.4044%

Dev loss average for this epoch is 1.2019 and average acc is 55.4044

Class turkey : (6710/9069) -> accuracy: 73.9883%

Class germany: (3893/9015) -> accuracy: 43.1836%

Class russia : (5419/8924) -> accuracy: 60.7239%

Class us : (5015/9039) -> accuracy: 55.4818%

Class france : (3895/8953) -> accuracy: 43.5050%

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

INFO:root: Best accuracy 55.4044% at epoch 2/10 (24932/45000)

Epoch run time: 00:43:09

Train average loss for this epoch is 3.5330 and average acc is 54.5714

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Epoch: 3/10 ---- best so far on epoch 2: acc=55.4044%

DEV accuracy on epoch 3/10 in train step 1012 = 55.9044%

Dev loss average for this epoch is 1.1866 and average acc is 55.9044

Class turkey : (6575/9069) -> accuracy: 72.4997%

Class germany: (4872/9015) -> accuracy: 54.0433%

Class russia : (5109/8924) -> accuracy: 57.2501%

Class us : (3876/9039) -> accuracy: 42.8808%

Class france : (4725/8953) -> accuracy: 52.7756%

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

INFO:root: Best accuracy 55.9044% at epoch 3/10 (25157/45000)

DEV accuracy on epoch 3/10 in train step 2022 = 56.5311%

Dev loss average for this epoch is 1.1754 and average acc is 56.5311

Class turkey : (6607/9069) -> accuracy: 72.8526%

Class germany: (4116/9015) -> accuracy: 45.6572%

Class russia : (5422/8924) -> accuracy: 60.7575%

Class us : (4752/9039) -> accuracy: 52.5722%

Class france : (4542/8953) -> accuracy: 50.7316%

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

INFO:root: Best accuracy 56.5311% at epoch 3/10 (25439/45000)

Epoch run time: 00:43:09

Train average loss for this epoch is 1.1606 and average acc is 57.4849

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Epoch: 4/10 ---- best so far on epoch 3: acc=56.5311%

DEV accuracy on epoch 4/10 in train step 1012 = 56.5356%

Dev loss average for this epoch is 1.1744 and average acc is 56.5356

Class turkey : (6598/9069) -> accuracy: 72.7533%

Class germany: (4862/9015) -> accuracy: 53.9323%

Class russia : (5217/8924) -> accuracy: 58.4603%

Class us : (4303/9039) -> accuracy: 47.6048%

Class france : (4461/8953) -> accuracy: 49.8269%

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

INFO:root: Best accuracy 56.5356% at epoch 4/10 (25441/45000)

DEV accuracy on epoch 4/10 in train step 2022 = 57.0067%

Dev loss average for this epoch is 1.1782 and average acc is 57.0067

Class turkey : (6176/9069) -> accuracy: 68.1001%

Class germany: (4175/9015) -> accuracy: 46.3117%

Class russia : (5654/8924) -> accuracy: 63.3572%

Class us : (4930/9039) -> accuracy: 54.5414%

Class france : (4718/8953) -> accuracy: 52.6974%

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

INFO:root: Best accuracy 57.0067% at epoch 4/10 (25653/45000)

Epoch run time: 00:43:10

Train average loss for this epoch is 1.1117 and average acc is 60.0025

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Epoch: 5/10 ---- best so far on epoch 4: acc=57.0067%

DEV accuracy on epoch 5/10 in train step 1012 = 56.6756%

Dev loss average for this epoch is 1.1829 and average acc is 56.6756

Class turkey : (6831/9069) -> accuracy: 75.3225%

Class germany: (4247/9015) -> accuracy: 47.1104%

Class russia : (5346/8924) -> accuracy: 59.9059%

Class us : (4759/9039) -> accuracy: 52.6496%

Class france : (4321/8953) -> accuracy: 48.2632%

DEV accuracy on epoch 5/10 in train step 2022 = 57.0000%

Dev loss average for this epoch is 1.1864 and average acc is 57.0000

Class turkey : (6258/9069) -> accuracy: 69.0043%

Class germany: (4416/9015) -> accuracy: 48.9850%

Class russia : (5667/8924) -> accuracy: 63.5029%

Class us : (4774/9039) -> accuracy: 52.8156%

Class france : (4535/8953) -> accuracy: 50.6534%

Epoch run time: 00:43:07

Train average loss for this epoch is 1.0620 and average acc is 62.8356

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Epoch: 6/10 ---- best so far on epoch 4: acc=57.0067%

DEV accuracy on epoch 6/10 in train step 1012 = 56.3911%

Dev loss average for this epoch is 1.2173 and average acc is 56.3911

Class turkey : (6571/9069) -> accuracy: 72.4556%

Class germany: (4107/9015) -> accuracy: 45.5574%

Class russia : (5673/8924) -> accuracy: 63.5701%

Class us : (4427/9039) -> accuracy: 48.9767%

Class france : (4598/8953) -> accuracy: 51.3571%

DEV accuracy on epoch 6/10 in train step 2022 = 56.6156%

Dev loss average for this epoch is 1.2048 and average acc is 56.6156

Class turkey : (6154/9069) -> accuracy: 67.8575%

Class germany: (4963/9015) -> accuracy: 55.0527%

Class russia : (5922/8924) -> accuracy: 66.3604%

Class us : (4232/9039) -> accuracy: 46.8193%

Class france : (4206/8953) -> accuracy: 46.9787%

Epoch run time: 00:43:07

Train average loss for this epoch is 1.0151 and average acc is 65.4933

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Epoch: 7/10 ---- best so far on epoch 4: acc=57.0067%

DEV accuracy on epoch 7/10 in train step 1012 = 56.0933%

Dev loss average for this epoch is 1.2399 and average acc is 56.0933

Class turkey : (6009/9069) -> accuracy: 66.2587%

Class germany: (4148/9015) -> accuracy: 46.0122%

Class russia : (5621/8924) -> accuracy: 62.9874%

Class us : (5266/9039) -> accuracy: 58.2587%

Class france : (4198/8953) -> accuracy: 46.8893%

DEV accuracy on epoch 7/10 in train step 2022 = 56.0200%

Dev loss average for this epoch is 1.2400 and average acc is 56.0200

Class turkey : (6045/9069) -> accuracy: 66.6556%

Class germany: (4735/9015) -> accuracy: 52.5236%

Class russia : (6229/8924) -> accuracy: 69.8005%

Class us : (3824/9039) -> accuracy: 42.3056%

Class france : (4376/8953) -> accuracy: 48.8775%

Epoch run time: 00:43:07

Train average loss for this epoch is 0.9681 and average acc is 68.1230

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Epoch: 8/10 ---- best so far on epoch 4: acc=57.0067%

DEV accuracy on epoch 8/10 in train step 1012 = 55.5533%

Dev loss average for this epoch is 1.2889 and average acc is 55.5533

Class turkey : (6066/9069) -> accuracy: 66.8872%

Class germany: (3957/9015) -> accuracy: 43.8935%

Class russia : (5564/8924) -> accuracy: 62.3487%

Class us : (5636/9039) -> accuracy: 62.3520%

Class france : (3776/8953) -> accuracy: 42.1758%

DEV accuracy on epoch 8/10 in train step 2022 = 55.7178%

Dev loss average for this epoch is 1.2688 and average acc is 55.7178

Class turkey : (6386/9069) -> accuracy: 70.4157%

Class germany: (4464/9015) -> accuracy: 49.5175%

Class russia : (5791/8924) -> accuracy: 64.8924%

Class us : (4208/9039) -> accuracy: 46.5538%

Class france : (4224/8953) -> accuracy: 47.1797%

Epoch run time: 00:43:08

Train average loss for this epoch is 0.9315 and average acc is 70.1040

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Epoch: 9/10 ---- best so far on epoch 4: acc=57.0067%

DEV accuracy on epoch 9/10 in train step 1012 = 54.8756%

Dev loss average for this epoch is 1.3257 and average acc is 54.8756

Class turkey : (5791/9069) -> accuracy: 63.8549%

Class germany: (3754/9015) -> accuracy: 41.6417%

Class russia : (5537/8924) -> accuracy: 62.0462%

Class us : (5884/9039) -> accuracy: 65.0957%

Class france : (3728/8953) -> accuracy: 41.6397%

DEV accuracy on epoch 9/10 in train step 2022 = 55.4311%

Dev loss average for this epoch is 1.3019 and average acc is 55.4311

Class turkey : (6083/9069) -> accuracy: 67.0746%

Class germany: (4393/9015) -> accuracy: 48.7299%

Class russia : (5765/8924) -> accuracy: 64.6011%

Class us : (4140/9039) -> accuracy: 45.8015%

Class france : (4563/8953) -> accuracy: 50.9662%

Epoch run time: 00:43:07

Train average loss for this epoch is 0.8938 and average acc is 72.0553

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Epoch: 10/10 ---- best so far on epoch 4: acc=57.0067%

DEV accuracy on epoch 10/10 in train step 1012 = 55.2289%

Dev loss average for this epoch is 1.3303 and average acc is 55.2289

Class turkey : (6151/9069) -> accuracy: 67.8245%

Class germany: (4287/9015) -> accuracy: 47.5541%

Class russia : (5490/8924) -> accuracy: 61.5195%

Class us : (4992/9039) -> accuracy: 55.2273%

Class france : (3933/8953) -> accuracy: 43.9294%

DEV accuracy on epoch 10/10 in train step 2022 = 55.3356%

Dev loss average for this epoch is 1.3330 and average acc is 55.3356

Class turkey : (6106/9069) -> accuracy: 67.3283%

Class germany: (4443/9015) -> accuracy: 49.2845%

Class russia : (5943/8924) -> accuracy: 66.5957%

Class us : (4024/9039) -> accuracy: 44.5182%

Class france : (4385/8953) -> accuracy: 48.9780%

Epoch run time: 00:43:08

Train average loss for this epoch is 0.8620 and average acc is 73.6852

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\*\*\*Training is complete. Best accuracy 57.0067% at epoch 4/10

\*\*\*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 1.1856 and average acc is 56.8520

Accuracy on test set - (28426/50000) -> accuracy: 56.8520%

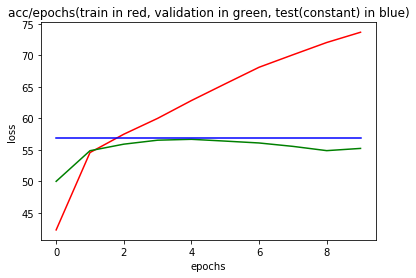
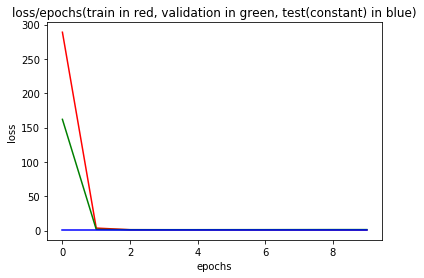
Class turkey : (6883/10038) -> accuracy: 68.5694%

Class germany: (4608/9945) -> accuracy: 46.3348%

Class russia : (6265/10106) -> accuracy: 61.9929%

Class us : (5511/10023) -> accuracy: 54.9835%

Class france : (5159/9888) -> accuracy: 52.1744%

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 0.3

BATCH\_SIZE 200

LSTM\_HIDDEN\_UNITS 300

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=4 is 57.0067

testing acc 5685.2000

Time(HH:MM:SS): 07:15:42

Leaving function \_\_main\_\_