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

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

total PARAM 2,166,605

---done vars---

batches\_num\_train2025

batches\_num\_dev225

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

DEV accuracy on epoch 1/10 in train step 1012 = 51.1156%

Dev loss for this epoch is 1.40101105934

Class turkey : (6141/9171) -> accuracy: 66.9611%

Class germany: (3491/9022) -> accuracy: 38.6943%

Class russia : (4238/8781) -> accuracy: 48.2633%

Class us : (5887/9087) -> accuracy: 64.7849%

Class france : (3245/8939) -> accuracy: 36.3016%

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

INFO:root: Best accuracy 51.1156% at epoch 1/10 (23002/45000)

DEV accuracy on epoch 1/10 in train step 2022 = 53.6556%

Dev loss for this epoch is 1.287764385

Class turkey : (5028/9171) -> accuracy: 54.8250%

Class germany: (5678/9022) -> accuracy: 62.9350%

Class russia : (6075/8781) -> accuracy: 69.1835%

Class us : (3788/9087) -> accuracy: 41.6859%

Class france : (3576/8939) -> accuracy: 40.0045%

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

INFO:root: Best accuracy 53.6556% at epoch 1/10 (24145/45000)

Epoch run time: 00:44:57

Train loss for this epoch is 1.28760568227

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Epoch: 2/10 ---- best so far on epoch 1: acc=53.6556%

DEV accuracy on epoch 2/10 in train step 1012 = 55.5600%

Dev loss for this epoch is 1.11925909673

Class turkey : (6333/9171) -> accuracy: 69.0546%

Class germany: (4230/9022) -> accuracy: 46.8854%

Class russia : (4905/8781) -> accuracy: 55.8592%

Class us : (6009/9087) -> accuracy: 66.1274%

Class france : (3525/8939) -> accuracy: 39.4339%

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

INFO:root: Best accuracy 55.5600% at epoch 2/10 (25002/45000)

DEV accuracy on epoch 2/10 in train step 2022 = 56.8556%

Dev loss for this epoch is 1.10026501985

Class turkey : (5600/9171) -> accuracy: 61.0620%

Class germany: (5797/9022) -> accuracy: 64.2540%

Class russia : (5764/8781) -> accuracy: 65.6417%

Class us : (4599/9087) -> accuracy: 50.6108%

Class france : (3825/8939) -> accuracy: 42.7900%

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

INFO:root: Best accuracy 56.8556% at epoch 2/10 (25585/45000)

Epoch run time: 00:44:44

Train loss for this epoch is 1.10019829267

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Epoch: 3/10 ---- best so far on epoch 2: acc=56.8556%

DEV accuracy on epoch 3/10 in train step 1012 = 57.4311%

Dev loss for this epoch is 1.04119449648

Class turkey : (6213/9171) -> accuracy: 67.7462%

Class germany: (4694/9022) -> accuracy: 52.0284%

Class russia : (5715/8781) -> accuracy: 65.0837%

Class us : (5533/9087) -> accuracy: 60.8892%

Class france : (3689/8939) -> accuracy: 41.2686%

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

INFO:root: Best accuracy 57.4311% at epoch 3/10 (25844/45000)

DEV accuracy on epoch 3/10 in train step 2022 = 57.6200%

Dev loss for this epoch is 1.02548038656

Class turkey : (5986/9171) -> accuracy: 65.2710%

Class germany: (5669/9022) -> accuracy: 62.8353%

Class russia : (5701/8781) -> accuracy: 64.9243%

Class us : (4308/9087) -> accuracy: 47.4084%

Class france : (4265/8939) -> accuracy: 47.7123%

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

INFO:root: Best accuracy 57.6200% at epoch 3/10 (25929/45000)

Epoch run time: 00:44:43

Train loss for this epoch is 1.02542335943

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Epoch: 4/10 ---- best so far on epoch 3: acc=57.6200%

DEV accuracy on epoch 4/10 in train step 1012 = 57.3978%

Dev loss for this epoch is 0.968680390895

Class turkey : (6102/9171) -> accuracy: 66.5358%

Class germany: (4702/9022) -> accuracy: 52.1170%

Class russia : (5625/8781) -> accuracy: 64.0588%

Class us : (5602/9087) -> accuracy: 61.6485%

Class france : (3798/8939) -> accuracy: 42.4880%

DEV accuracy on epoch 4/10 in train step 2022 = 57.1778%

Dev loss for this epoch is 0.954177039511

Class turkey : (5990/9171) -> accuracy: 65.3146%

Class germany: (5833/9022) -> accuracy: 64.6531%

Class russia : (5439/8781) -> accuracy: 61.9406%

Class us : (4300/9087) -> accuracy: 47.3203%

Class france : (4168/8939) -> accuracy: 46.6271%

Epoch run time: 00:44:39

Train loss for this epoch is 0.954113403073

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Epoch: 5/10 ---- best so far on epoch 3: acc=57.6200%

DEV accuracy on epoch 5/10 in train step 1012 = 56.6378%

Dev loss for this epoch is 0.897435628003

Class turkey : (5883/9171) -> accuracy: 64.1479%

Class germany: (4622/9022) -> accuracy: 51.2303%

Class russia : (5924/8781) -> accuracy: 67.4638%

Class us : (5391/9087) -> accuracy: 59.3265%

Class france : (3667/8939) -> accuracy: 41.0225%

DEV accuracy on epoch 5/10 in train step 2022 = 56.0778%

Dev loss for this epoch is 0.885057692798

Class turkey : (6062/9171) -> accuracy: 66.0997%

Class germany: (5825/9022) -> accuracy: 64.5644%

Class russia : (5056/8781) -> accuracy: 57.5789%

Class us : (3963/9087) -> accuracy: 43.6118%

Class france : (4329/8939) -> accuracy: 48.4282%

Epoch run time: 00:44:40

Train loss for this epoch is 0.885009840948

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Epoch: 6/10 ---- best so far on epoch 3: acc=57.6200%

DEV accuracy on epoch 6/10 in train step 1012 = 56.1933%

Dev loss for this epoch is 0.834136561604

Class turkey : (5662/9171) -> accuracy: 61.7381%

Class germany: (4681/9022) -> accuracy: 51.8843%

Class russia : (6048/8781) -> accuracy: 68.8760%

Class us : (5193/9087) -> accuracy: 57.1476%

Class france : (3703/8939) -> accuracy: 41.4252%

DEV accuracy on epoch 6/10 in train step 2022 = 55.5800%

Dev loss for this epoch is 0.824410268121

Class turkey : (6138/9171) -> accuracy: 66.9284%

Class germany: (5744/9022) -> accuracy: 63.6666%

Class russia : (5007/8781) -> accuracy: 57.0208%

Class us : (3898/9087) -> accuracy: 42.8964%

Class france : (4224/8939) -> accuracy: 47.2536%

Epoch run time: 00:44:40

Train loss for this epoch is 0.824331489581

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Epoch: 7/10 ---- best so far on epoch 3: acc=57.6200%

DEV accuracy on epoch 7/10 in train step 1012 = 55.7578%

Dev loss for this epoch is 0.779587989204

Class turkey : (5506/9171) -> accuracy: 60.0371%

Class germany: (4792/9022) -> accuracy: 53.1146%

Class russia : (5570/8781) -> accuracy: 63.4324%

Class us : (5334/9087) -> accuracy: 58.6992%

Class france : (3889/8939) -> accuracy: 43.5060%

DEV accuracy on epoch 7/10 in train step 2022 = 55.3400%

Dev loss for this epoch is 0.771852955539

Class turkey : (5881/9171) -> accuracy: 64.1260%

Class germany: (5537/9022) -> accuracy: 61.3722%

Class russia : (5175/8781) -> accuracy: 58.9341%

Class us : (3851/9087) -> accuracy: 42.3792%

Class france : (4459/8939) -> accuracy: 49.8825%

Epoch run time: 00:44:39

Train loss for this epoch is 0.771805278372

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Epoch: 8/10 ---- best so far on epoch 3: acc=57.6200%

DEV accuracy on epoch 8/10 in train step 1012 = 55.4689%

Dev loss for this epoch is 0.732082889881

Class turkey : (5517/9171) -> accuracy: 60.1570%

Class germany: (4705/9022) -> accuracy: 52.1503%

Class russia : (5610/8781) -> accuracy: 63.8879%

Class us : (5137/9087) -> accuracy: 56.5313%

Class france : (3992/8939) -> accuracy: 44.6582%

DEV accuracy on epoch 8/10 in train step 2022 = 55.1111%

Dev loss for this epoch is 0.725018456232

Class turkey : (5918/9171) -> accuracy: 64.5295%

Class germany: (5164/9022) -> accuracy: 57.2379%

Class russia : (5304/8781) -> accuracy: 60.4031%

Class us : (3910/9087) -> accuracy: 43.0285%

Class france : (4504/8939) -> accuracy: 50.3859%

Epoch run time: 00:44:39

Train loss for this epoch is 0.724987436283

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Epoch: 9/10 ---- best so far on epoch 3: acc=57.6200%

DEV accuracy on epoch 9/10 in train step 1012 = 54.8956%

Dev loss for this epoch is 0.689560555429

Class turkey : (5414/9171) -> accuracy: 59.0339%

Class germany: (4410/9022) -> accuracy: 48.8805%

Class russia : (5392/8781) -> accuracy: 61.4053%

Class us : (5205/9087) -> accuracy: 57.2796%

Class france : (4282/8939) -> accuracy: 47.9024%

DEV accuracy on epoch 9/10 in train step 2022 = 54.8956%

Dev loss for this epoch is 0.686507354293

Class turkey : (5515/9171) -> accuracy: 60.1352%

Class germany: (4848/9022) -> accuracy: 53.7353%

Class russia : (5206/8781) -> accuracy: 59.2871%

Class us : (4856/9087) -> accuracy: 53.4390%

Class france : (4278/8939) -> accuracy: 47.8577%

Epoch run time: 00:44:39

Train loss for this epoch is 0.68644567004

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Epoch: 10/10 ---- best so far on epoch 3: acc=57.6200%

DEV accuracy on epoch 10/10 in train step 1012 = 54.8822%

Dev loss for this epoch is 0.654037441106

Class turkey : (5620/9171) -> accuracy: 61.2801%

Class germany: (4862/9022) -> accuracy: 53.8905%

Class russia : (5177/8781) -> accuracy: 58.9568%

Class us : (4946/9087) -> accuracy: 54.4294%

Class france : (4092/8939) -> accuracy: 45.7769%

DEV accuracy on epoch 10/10 in train step 2022 = 54.2756%

Dev loss for this epoch is 0.651577462375

Class turkey : (5460/9171) -> accuracy: 59.5355%

Class germany: (4887/9022) -> accuracy: 54.1676%

Class russia : (5169/8781) -> accuracy: 58.8657%

Class us : (4771/9087) -> accuracy: 52.5036%

Class france : (4137/8939) -> accuracy: 46.2803%

Epoch run time: 00:44:39

Train loss for this epoch is 0.651537699228

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\*\*\*Training is complete. Best accuracy 57.6200% at epoch 3/10

\*\*\*Testing...

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

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

Accuracy on test set - (28555/50000) -> accuracy: 57.1100%

Class turkey : (6445/9898) -> accuracy: 65.1142%

Class germany: (6300/10147) -> accuracy: 62.0873%

Class russia : (6309/9791) -> accuracy: 64.4367%

Class us : (4729/10007) -> accuracy: 47.2569%

Class france : (4772/10157) -> accuracy: 46.9824%

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 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=3 is 57.6200

testing acc 57.1100

Time(HH:MM:SS): 07:31:03

Leaving function \_\_main\_\_