Entering function \_\_main\_\_

Embedding tokens size=400001

File name 5way\_tur\_ger\_rus\_fra\_usa25-150. Total data size is 250000

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: 202500, x\_dev: 22500, x\_test: 25000

y\_train: 202500, y\_dev: 22500, y\_test: 25000

input\_data\_x\_batch shape: (200, 150)

input\_labels\_batch shape: (200, 5)

gru\_forward\_cell units: 300

gru\_backward\_cell units: 300

---vars name and shapes---

(u'bidirectional\_rnn/fw/gru\_cell/gates/kernel:0', TensorShape([Dimension(400), Dimension(600)]), 240000)

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

(u'bidirectional\_rnn/fw/gru\_cell/candidate/kernel:0', TensorShape([Dimension(400), Dimension(300)]), 120000)

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

(u'bidirectional\_rnn/bw/gru\_cell/gates/kernel:0', TensorShape([Dimension(400), Dimension(600)]), 240000)

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

(u'bidirectional\_rnn/bw/gru\_cell/candidate/kernel:0', TensorShape([Dimension(400), Dimension(300)]), 120000)

(u'bidirectional\_rnn/bw/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 724,805

---done vars---

Epoch: 1/20 ---- best so far on epoch 0: acc=0.0000%

DEV accuracy on epoch 1/20 in train step 0 = 19.6652%

Class turkey : (0/4422) -> accuracy: 0.0000%

Class germany: (4405/4405) -> accuracy: 100.0000%

Class russia : (0/4506) -> accuracy: 0.0000%

Class us : (0/4495) -> accuracy: 0.0000%

Class france : (0/4572) -> accuracy: 0.0000%

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

INFO:root: Best accuracy 19.6652% at epoch 1/20 (4405/22400)

DEV accuracy on epoch 1/20 in train step 506 = 30.6071%

Class turkey : (2375/4422) -> accuracy: 53.7087%

Class germany: (3973/4405) -> accuracy: 90.1930%

Class russia : (31/4506) -> accuracy: 0.6880%

Class us : (1/4495) -> accuracy: 0.0222%

Class france : (476/4572) -> accuracy: 10.4112%

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

INFO:root: Best accuracy 30.6071% at epoch 1/20 (6856/22400)

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

Epoch: 2/20 ---- best so far on epoch 1: acc=30.6071%

DEV accuracy on epoch 2/20 in train step 0 = 47.7723%

Class turkey : (2795/4422) -> accuracy: 63.2067%

Class germany: (3179/4405) -> accuracy: 72.1680%

Class russia : (2278/4506) -> accuracy: 50.5548%

Class us : (1055/4495) -> accuracy: 23.4705%

Class france : (1394/4572) -> accuracy: 30.4899%

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

INFO:root: Best accuracy 47.7723% at epoch 2/20 (10701/22400)

DEV accuracy on epoch 2/20 in train step 506 = 50.0893%

Class turkey : (1961/4422) -> accuracy: 44.3464%

Class germany: (1779/4405) -> accuracy: 40.3859%

Class russia : (2338/4506) -> accuracy: 51.8864%

Class us : (2352/4495) -> accuracy: 52.3248%

Class france : (2790/4572) -> accuracy: 61.0236%

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

INFO:root: Best accuracy 50.0893% at epoch 2/20 (11220/22400)

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

Epoch: 3/20 ---- best so far on epoch 2: acc=50.0893%

DEV accuracy on epoch 3/20 in train step 0 = 52.6473%

Class turkey : (3120/4422) -> accuracy: 70.5563%

Class germany: (2537/4405) -> accuracy: 57.5936%

Class russia : (2530/4506) -> accuracy: 56.1474%

Class us : (1839/4495) -> accuracy: 40.9121%

Class france : (1767/4572) -> accuracy: 38.6483%

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

INFO:root: Best accuracy 52.6473% at epoch 3/20 (11793/22400)

DEV accuracy on epoch 3/20 in train step 506 = 52.3616%

Class turkey : (2162/4422) -> accuracy: 48.8919%

Class germany: (1994/4405) -> accuracy: 45.2667%

Class russia : (2866/4506) -> accuracy: 63.6041%

Class us : (3061/4495) -> accuracy: 68.0979%

Class france : (1646/4572) -> accuracy: 36.0017%

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

Epoch: 4/20 ---- best so far on epoch 3: acc=52.6473%

DEV accuracy on epoch 4/20 in train step 0 = 54.4152%

Class turkey : (3065/4422) -> accuracy: 69.3125%

Class germany: (1761/4405) -> accuracy: 39.9773%

Class russia : (2892/4506) -> accuracy: 64.1811%

Class us : (2269/4495) -> accuracy: 50.4783%

Class france : (2202/4572) -> accuracy: 48.1627%

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

INFO:root: Best accuracy 54.4152% at epoch 4/20 (12189/22400)

DEV accuracy on epoch 4/20 in train step 506 = 54.0982%

Class turkey : (2407/4422) -> accuracy: 54.4324%

Class germany: (2255/4405) -> accuracy: 51.1918%

Class russia : (2889/4506) -> accuracy: 64.1145%

Class us : (2874/4495) -> accuracy: 63.9377%

Class france : (1693/4572) -> accuracy: 37.0297%

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

Epoch: 5/20 ---- best so far on epoch 4: acc=54.4152%

DEV accuracy on epoch 5/20 in train step 0 = 54.7188%

Class turkey : (2725/4422) -> accuracy: 61.6237%

Class germany: (1913/4405) -> accuracy: 43.4279%

Class russia : (2927/4506) -> accuracy: 64.9578%

Class us : (2027/4495) -> accuracy: 45.0945%

Class france : (2665/4572) -> accuracy: 58.2896%

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

INFO:root: Best accuracy 54.7188% at epoch 5/20 (12257/22400)

DEV accuracy on epoch 5/20 in train step 506 = 55.6295%

Class turkey : (2703/4422) -> accuracy: 61.1262%

Class germany: (2004/4405) -> accuracy: 45.4938%

Class russia : (3031/4506) -> accuracy: 67.2659%

Class us : (2557/4495) -> accuracy: 56.8854%

Class france : (2166/4572) -> accuracy: 47.3753%

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

INFO:root: Best accuracy 55.6295% at epoch 5/20 (12461/22400)

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

Epoch: 6/20 ---- best so far on epoch 5: acc=55.6295%

DEV accuracy on epoch 6/20 in train step 0 = 55.4464%

Class turkey : (2777/4422) -> accuracy: 62.7996%

Class germany: (2044/4405) -> accuracy: 46.4018%

Class russia : (2760/4506) -> accuracy: 61.2517%

Class us : (2321/4495) -> accuracy: 51.6352%

Class france : (2518/4572) -> accuracy: 55.0744%

DEV accuracy on epoch 6/20 in train step 506 = 55.9196%

Class turkey : (2784/4422) -> accuracy: 62.9579%

Class germany: (1988/4405) -> accuracy: 45.1305%

Class russia : (3072/4506) -> accuracy: 68.1758%

Class us : (2511/4495) -> accuracy: 55.8621%

Class france : (2171/4572) -> accuracy: 47.4847%

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

INFO:root: Best accuracy 55.9196% at epoch 6/20 (12526/22400)

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

Epoch: 7/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 7/20 in train step 0 = 55.3125%

Class turkey : (2912/4422) -> accuracy: 65.8526%

Class germany: (1926/4405) -> accuracy: 43.7230%

Class russia : (2602/4506) -> accuracy: 57.7452%

Class us : (2737/4495) -> accuracy: 60.8899%

Class france : (2213/4572) -> accuracy: 48.4033%

DEV accuracy on epoch 7/20 in train step 506 = 55.7634%

Class turkey : (2895/4422) -> accuracy: 65.4681%

Class germany: (1848/4405) -> accuracy: 41.9523%

Class russia : (2928/4506) -> accuracy: 64.9800%

Class us : (2829/4495) -> accuracy: 62.9366%

Class france : (1991/4572) -> accuracy: 43.5477%

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

Epoch: 8/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 8/20 in train step 0 = 54.9375%

Class turkey : (2833/4422) -> accuracy: 64.0660%

Class germany: (1884/4405) -> accuracy: 42.7696%

Class russia : (2605/4506) -> accuracy: 57.8118%

Class us : (2859/4495) -> accuracy: 63.6040%

Class france : (2125/4572) -> accuracy: 46.4786%

DEV accuracy on epoch 8/20 in train step 506 = 55.8571%

Class turkey : (3190/4422) -> accuracy: 72.1393%

Class germany: (1978/4405) -> accuracy: 44.9035%

Class russia : (2893/4506) -> accuracy: 64.2033%

Class us : (2316/4495) -> accuracy: 51.5239%

Class france : (2135/4572) -> accuracy: 46.6973%

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

Epoch: 9/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 9/20 in train step 0 = 54.6116%

Class turkey : (2705/4422) -> accuracy: 61.1714%

Class germany: (1962/4405) -> accuracy: 44.5403%

Class russia : (2547/4506) -> accuracy: 56.5246%

Class us : (2837/4495) -> accuracy: 63.1146%

Class france : (2182/4572) -> accuracy: 47.7253%

DEV accuracy on epoch 9/20 in train step 506 = 54.8571%

Class turkey : (3250/4422) -> accuracy: 73.4962%

Class germany: (1987/4405) -> accuracy: 45.1078%

Class russia : (2800/4506) -> accuracy: 62.1394%

Class us : (2267/4495) -> accuracy: 50.4338%

Class france : (1984/4572) -> accuracy: 43.3946%

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

Epoch: 10/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 10/20 in train step 0 = 53.4732%

Class turkey : (2523/4422) -> accuracy: 57.0556%

Class germany: (1788/4405) -> accuracy: 40.5902%

Class russia : (2511/4506) -> accuracy: 55.7257%

Class us : (3038/4495) -> accuracy: 67.5862%

Class france : (2118/4572) -> accuracy: 46.3255%

DEV accuracy on epoch 10/20 in train step 506 = 54.0893%

Class turkey : (3269/4422) -> accuracy: 73.9258%

Class germany: (2049/4405) -> accuracy: 46.5153%

Class russia : (2719/4506) -> accuracy: 60.3418%

Class us : (2036/4495) -> accuracy: 45.2948%

Class france : (2043/4572) -> accuracy: 44.6850%

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

Epoch: 11/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 11/20 in train step 0 = 53.6027%

Class turkey : (2569/4422) -> accuracy: 58.0959%

Class germany: (1849/4405) -> accuracy: 41.9750%

Class russia : (2730/4506) -> accuracy: 60.5859%

Class us : (2812/4495) -> accuracy: 62.5584%

Class france : (2047/4572) -> accuracy: 44.7725%

DEV accuracy on epoch 11/20 in train step 506 = 52.8438%

Class turkey : (2990/4422) -> accuracy: 67.6165%

Class germany: (2276/4405) -> accuracy: 51.6686%

Class russia : (2431/4506) -> accuracy: 53.9503%

Class us : (1715/4495) -> accuracy: 38.1535%

Class france : (2425/4572) -> accuracy: 53.0402%

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

Epoch: 12/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 12/20 in train step 0 = 53.0893%

Class turkey : (2722/4422) -> accuracy: 61.5559%

Class germany: (2110/4405) -> accuracy: 47.9001%

Class russia : (2795/4506) -> accuracy: 62.0284%

Class us : (2236/4495) -> accuracy: 49.7442%

Class france : (2029/4572) -> accuracy: 44.3788%

DEV accuracy on epoch 12/20 in train step 506 = 52.1920%

Class turkey : (2876/4422) -> accuracy: 65.0384%

Class germany: (2242/4405) -> accuracy: 50.8967%

Class russia : (2179/4506) -> accuracy: 48.3577%

Class us : (2155/4495) -> accuracy: 47.9422%

Class france : (2239/4572) -> accuracy: 48.9720%

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

Epoch: 13/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 13/20 in train step 0 = 52.0625%

Class turkey : (2747/4422) -> accuracy: 62.1212%

Class germany: (2142/4405) -> accuracy: 48.6266%

Class russia : (2594/4506) -> accuracy: 57.5677%

Class us : (2328/4495) -> accuracy: 51.7909%

Class france : (1851/4572) -> accuracy: 40.4856%

DEV accuracy on epoch 13/20 in train step 506 = 52.1696%

Class turkey : (2838/4422) -> accuracy: 64.1791%

Class germany: (1948/4405) -> accuracy: 44.2225%

Class russia : (2395/4506) -> accuracy: 53.1514%

Class us : (2436/4495) -> accuracy: 54.1935%

Class france : (2069/4572) -> accuracy: 45.2537%

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

Epoch: 14/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 14/20 in train step 0 = 51.2902%

Class turkey : (2516/4422) -> accuracy: 56.8973%

Class germany: (2227/4405) -> accuracy: 50.5562%

Class russia : (2566/4506) -> accuracy: 56.9463%

Class us : (2473/4495) -> accuracy: 55.0167%

Class france : (1707/4572) -> accuracy: 37.3360%

DEV accuracy on epoch 14/20 in train step 506 = 51.9554%

Class turkey : (2916/4422) -> accuracy: 65.9430%

Class germany: (2000/4405) -> accuracy: 45.4030%

Class russia : (2389/4506) -> accuracy: 53.0182%

Class us : (2216/4495) -> accuracy: 49.2992%

Class france : (2117/4572) -> accuracy: 46.3036%

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

Epoch: 15/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 15/20 in train step 0 = 51.1295%

Class turkey : (2488/4422) -> accuracy: 56.2641%

Class germany: (1925/4405) -> accuracy: 43.7003%

Class russia : (2976/4506) -> accuracy: 66.0453%

Class us : (2256/4495) -> accuracy: 50.1891%

Class france : (1808/4572) -> accuracy: 39.5451%

DEV accuracy on epoch 15/20 in train step 506 = 51.1027%

Class turkey : (2780/4422) -> accuracy: 62.8675%

Class germany: (1884/4405) -> accuracy: 42.7696%

Class russia : (2583/4506) -> accuracy: 57.3236%

Class us : (1801/4495) -> accuracy: 40.0667%

Class france : (2399/4572) -> accuracy: 52.4716%

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

Epoch: 16/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 16/20 in train step 0 = 49.9955%

Class turkey : (2278/4422) -> accuracy: 51.5152%

Class germany: (1679/4405) -> accuracy: 38.1158%

Class russia : (2984/4506) -> accuracy: 66.2228%

Class us : (2306/4495) -> accuracy: 51.3014%

Class france : (1952/4572) -> accuracy: 42.6947%

DEV accuracy on epoch 16/20 in train step 506 = 50.8571%

Class turkey : (2878/4422) -> accuracy: 65.0837%

Class germany: (1695/4405) -> accuracy: 38.4790%

Class russia : (2493/4506) -> accuracy: 55.3262%

Class us : (2071/4495) -> accuracy: 46.0734%

Class france : (2255/4572) -> accuracy: 49.3220%

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

Epoch: 17/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 17/20 in train step 0 = 50.1786%

Class turkey : (2496/4422) -> accuracy: 56.4450%

Class germany: (1677/4405) -> accuracy: 38.0704%

Class russia : (2900/4506) -> accuracy: 64.3586%

Class us : (2025/4495) -> accuracy: 45.0501%

Class france : (2142/4572) -> accuracy: 46.8504%

DEV accuracy on epoch 17/20 in train step 506 = 50.7455%

Class turkey : (2804/4422) -> accuracy: 63.4102%

Class germany: (1844/4405) -> accuracy: 41.8615%

Class russia : (2576/4506) -> accuracy: 57.1682%

Class us : (2189/4495) -> accuracy: 48.6986%

Class france : (1954/4572) -> accuracy: 42.7384%

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

Epoch: 18/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 18/20 in train step 0 = 50.3438%

Class turkey : (2608/4422) -> accuracy: 58.9778%

Class germany: (1561/4405) -> accuracy: 35.4370%

Class russia : (2761/4506) -> accuracy: 61.2739%

Class us : (2186/4495) -> accuracy: 48.6318%

Class france : (2161/4572) -> accuracy: 47.2660%

DEV accuracy on epoch 18/20 in train step 506 = 50.4866%

Class turkey : (2675/4422) -> accuracy: 60.4930%

Class germany: (1983/4405) -> accuracy: 45.0170%

Class russia : (2690/4506) -> accuracy: 59.6982%

Class us : (2002/4495) -> accuracy: 44.5384%

Class france : (1959/4572) -> accuracy: 42.8478%

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

Epoch: 19/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 19/20 in train step 0 = 50.2545%

Class turkey : (2711/4422) -> accuracy: 61.3071%

Class germany: (1674/4405) -> accuracy: 38.0023%

Class russia : (2536/4506) -> accuracy: 56.2805%

Class us : (2397/4495) -> accuracy: 53.3259%

Class france : (1939/4572) -> accuracy: 42.4103%

DEV accuracy on epoch 19/20 in train step 506 = 50.5000%

Class turkey : (2861/4422) -> accuracy: 64.6992%

Class germany: (1776/4405) -> accuracy: 40.3178%

Class russia : (2827/4506) -> accuracy: 62.7386%

Class us : (1893/4495) -> accuracy: 42.1135%

Class france : (1955/4572) -> accuracy: 42.7603%

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

Epoch: 20/20 ---- best so far on epoch 6: acc=55.9196%

DEV accuracy on epoch 20/20 in train step 0 = 50.1518%

Class turkey : (2748/4422) -> accuracy: 62.1438%

Class germany: (1661/4405) -> accuracy: 37.7072%

Class russia : (2605/4506) -> accuracy: 57.8118%

Class us : (2251/4495) -> accuracy: 50.0779%

Class france : (1969/4572) -> accuracy: 43.0665%

DEV accuracy on epoch 20/20 in train step 506 = 50.2500%

Class turkey : (2798/4422) -> accuracy: 63.2745%

Class germany: (1661/4405) -> accuracy: 37.7072%

Class russia : (2815/4506) -> accuracy: 62.4723%

Class us : (2109/4495) -> accuracy: 46.9188%

Class france : (1873/4572) -> accuracy: 40.9668%

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

\*\*\*Training is complete. Best accuracy 55.9196% at epoch 6/20

\*\*\*Testing...

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

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

Accuracy on test set - (13902/25000) -> accuracy: 55.6080%

Class turkey : (3166/4971) -> accuracy: 63.6894%

Class germany: (2227/5035) -> accuracy: 44.2304%

Class russia : (3383/5020) -> accuracy: 67.3904%

Class us : (2784/4954) -> accuracy: 56.1970%

Class france : (2342/5020) -> accuracy: 46.6534%

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

data:

DATA\_FILE\_PATH is ../input/5way\_tur\_ger\_rus\_fra\_usa25-150.txt

MINIMUM\_ROW\_LENGTH is 25

MAXIMUM\_ROW\_LENGTH is 150

COUNT\_WORD is 20

lines\_per\_class is 50000

number of classes is 5

Total data size is 250000

embedding:

EMB\_FILE\_PATH ../input/glove.6B.100d.txt

EMB\_DIM 100

EMB\_WORDS\_COUNT 400001

run config:

EPOCHS 20

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=6 is 55.9196428571

testing acc 55.608

Time(HH:MM:SS): 03:10:48

Leaving function \_\_main\_\_