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: 150

gru\_backward\_cell units: 150

---vars name and shapes---

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(450), Dimension(300)]), 135000)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(450), Dimension(150)]), 67500)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

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

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

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(u'bidirectional\_rnn/fw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/gates/kernel:0', TensorShape([Dimension(450), Dimension(300)]), 135000)

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

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/kernel:0', TensorShape([Dimension(450), Dimension(150)]), 67500)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_0/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

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

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(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_1/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_2/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/kernel:0', TensorShape([Dimension(300), Dimension(300)]), 90000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/gates/bias:0', TensorShape([Dimension(300)]), 300)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/kernel:0', TensorShape([Dimension(300), Dimension(150)]), 45000)

(u'bidirectional\_rnn/bw/multi\_rnn\_cell/cell\_3/gru\_cell/candidate/bias:0', TensorShape([Dimension(150)]), 150)

(u'weight:0', TensorShape([Dimension(300), Dimension(5)]), 1500)

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

total PARAM 1,220,105

---done vars---

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

DEV accuracy on epoch 1/20 in train step 506 = 37.4286%

Class turkey : (1556/4422) -> accuracy: 35.1877%

Class germany: (1389/4405) -> accuracy: 31.5323%

Class russia : (2170/4506) -> accuracy: 48.1580%

Class us : (2041/4495) -> accuracy: 45.4060%

Class france : (1228/4572) -> accuracy: 26.8591%

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

INFO:root: Best accuracy 37.4286% at epoch 1/20 (8384/22400)

DEV accuracy on epoch 1/20 in train step 1009 = 51.1562%

Class turkey : (2386/4422) -> accuracy: 53.9575%

Class germany: (1760/4405) -> accuracy: 39.9546%

Class russia : (3005/4506) -> accuracy: 66.6889%

Class us : (2862/4495) -> accuracy: 63.6707%

Class france : (1446/4572) -> accuracy: 31.6273%

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

INFO:root: Best accuracy 51.1562% at epoch 1/20 (11459/22400)

Epoch run time: 00:28:31

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Epoch: 2/20 ---- best so far on epoch 1: acc=51.1562%

DEV accuracy on epoch 2/20 in train step 506 = 54.6250%

Class turkey : (2920/4422) -> accuracy: 66.0335%

Class germany: (2074/4405) -> accuracy: 47.0829%

Class russia : (3205/4506) -> accuracy: 71.1274%

Class us : (1995/4495) -> accuracy: 44.3826%

Class france : (2042/4572) -> accuracy: 44.6632%

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

INFO:root: Best accuracy 54.6250% at epoch 2/20 (12236/22400)

DEV accuracy on epoch 2/20 in train step 1009 = 54.8348%

Class turkey : (2599/4422) -> accuracy: 58.7743%

Class germany: (2075/4405) -> accuracy: 47.1056%

Class russia : (2948/4506) -> accuracy: 65.4239%

Class us : (2898/4495) -> accuracy: 64.4716%

Class france : (1763/4572) -> accuracy: 38.5608%

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

INFO:root: Best accuracy 54.8348% at epoch 2/20 (12283/22400)

Epoch run time: 00:28:18

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Epoch: 3/20 ---- best so far on epoch 2: acc=54.8348%

DEV accuracy on epoch 3/20 in train step 506 = 56.6071%

Class turkey : (3071/4422) -> accuracy: 69.4482%

Class germany: (2192/4405) -> accuracy: 49.7616%

Class russia : (3048/4506) -> accuracy: 67.6431%

Class us : (2300/4495) -> accuracy: 51.1680%

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

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

INFO:root: Best accuracy 56.6071% at epoch 3/20 (12680/22400)

DEV accuracy on epoch 3/20 in train step 1009 = 56.4554%

Class turkey : (2839/4422) -> accuracy: 64.2017%

Class germany: (2080/4405) -> accuracy: 47.2191%

Class russia : (2972/4506) -> accuracy: 65.9565%

Class us : (2779/4495) -> accuracy: 61.8242%

Class france : (1976/4572) -> accuracy: 43.2196%

Epoch run time: 00:28:10

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Epoch: 4/20 ---- best so far on epoch 3: acc=56.6071%

DEV accuracy on epoch 4/20 in train step 506 = 57.2768%

Class turkey : (3093/4422) -> accuracy: 69.9457%

Class germany: (2177/4405) -> accuracy: 49.4211%

Class russia : (2802/4506) -> accuracy: 62.1838%

Class us : (2450/4495) -> accuracy: 54.5050%

Class france : (2308/4572) -> accuracy: 50.4812%

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

INFO:root: Best accuracy 57.2768% at epoch 4/20 (12830/22400)

DEV accuracy on epoch 4/20 in train step 1009 = 56.4688%

Class turkey : (2792/4422) -> accuracy: 63.1389%

Class germany: (2159/4405) -> accuracy: 49.0125%

Class russia : (2886/4506) -> accuracy: 64.0479%

Class us : (2868/4495) -> accuracy: 63.8042%

Class france : (1944/4572) -> accuracy: 42.5197%

Epoch run time: 00:28:08

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Epoch: 5/20 ---- best so far on epoch 4: acc=57.2768%

DEV accuracy on epoch 5/20 in train step 506 = 56.9554%

Class turkey : (3100/4422) -> accuracy: 70.1040%

Class germany: (2089/4405) -> accuracy: 47.4234%

Class russia : (2618/4506) -> accuracy: 58.1003%

Class us : (2677/4495) -> accuracy: 59.5551%

Class france : (2274/4572) -> accuracy: 49.7375%

DEV accuracy on epoch 5/20 in train step 1009 = 56.6696%

Class turkey : (2605/4422) -> accuracy: 58.9100%

Class germany: (2173/4405) -> accuracy: 49.3303%

Class russia : (3020/4506) -> accuracy: 67.0217%

Class us : (2762/4495) -> accuracy: 61.4461%

Class france : (2134/4572) -> accuracy: 46.6754%

Epoch run time: 00:28:07

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Epoch: 6/20 ---- best so far on epoch 4: acc=57.2768%

DEV accuracy on epoch 6/20 in train step 506 = 56.6295%

Class turkey : (3042/4422) -> accuracy: 68.7924%

Class germany: (2088/4405) -> accuracy: 47.4007%

Class russia : (2552/4506) -> accuracy: 56.6356%

Class us : (2731/4495) -> accuracy: 60.7564%

Class france : (2272/4572) -> accuracy: 49.6938%

DEV accuracy on epoch 6/20 in train step 1009 = 56.6295%

Class turkey : (2600/4422) -> accuracy: 58.7969%

Class germany: (2108/4405) -> accuracy: 47.8547%

Class russia : (3064/4506) -> accuracy: 67.9982%

Class us : (2752/4495) -> accuracy: 61.2236%

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

Epoch run time: 00:28:08

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Epoch: 7/20 ---- best so far on epoch 4: acc=57.2768%

DEV accuracy on epoch 7/20 in train step 506 = 55.8929%

Class turkey : (2911/4422) -> accuracy: 65.8299%

Class germany: (1941/4405) -> accuracy: 44.0636%

Class russia : (2483/4506) -> accuracy: 55.1043%

Class us : (2984/4495) -> accuracy: 66.3849%

Class france : (2201/4572) -> accuracy: 48.1409%

DEV accuracy on epoch 7/20 in train step 1009 = 56.3393%

Class turkey : (2712/4422) -> accuracy: 61.3297%

Class germany: (2048/4405) -> accuracy: 46.4926%

Class russia : (2929/4506) -> accuracy: 65.0022%

Class us : (2590/4495) -> accuracy: 57.6196%

Class france : (2341/4572) -> accuracy: 51.2030%

Epoch run time: 00:28:07

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Epoch: 8/20 ---- best so far on epoch 4: acc=57.2768%

DEV accuracy on epoch 8/20 in train step 506 = 55.4598%

Class turkey : (3096/4422) -> accuracy: 70.0136%

Class germany: (1905/4405) -> accuracy: 43.2463%

Class russia : (2483/4506) -> accuracy: 55.1043%

Class us : (2941/4495) -> accuracy: 65.4283%

Class france : (1998/4572) -> accuracy: 43.7008%

DEV accuracy on epoch 8/20 in train step 1009 = 56.0491%

Class turkey : (2868/4422) -> accuracy: 64.8575%

Class germany: (1845/4405) -> accuracy: 41.8842%

Class russia : (2854/4506) -> accuracy: 63.3378%

Class us : (2567/4495) -> accuracy: 57.1079%

Class france : (2421/4572) -> accuracy: 52.9528%

Epoch run time: 00:28:07

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Epoch: 9/20 ---- best so far on epoch 4: acc=57.2768%

DEV accuracy on epoch 9/20 in train step 506 = 55.0268%

Class turkey : (3193/4422) -> accuracy: 72.2071%

Class germany: (1799/4405) -> accuracy: 40.8400%

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

Class us : (2778/4495) -> accuracy: 61.8020%

Class france : (2026/4572) -> accuracy: 44.3132%

DEV accuracy on epoch 9/20 in train step 1009 = 55.8661%

Class turkey : (2959/4422) -> accuracy: 66.9154%

Class germany: (1796/4405) -> accuracy: 40.7719%

Class russia : (2912/4506) -> accuracy: 64.6249%

Class us : (2466/4495) -> accuracy: 54.8610%

Class france : (2381/4572) -> accuracy: 52.0779%

Epoch run time: 00:28:07

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Epoch: 10/20 ---- best so far on epoch 4: acc=57.2768%

DEV accuracy on epoch 10/20 in train step 506 = 55.1116%

Class turkey : (3090/4422) -> accuracy: 69.8779%

Class germany: (1947/4405) -> accuracy: 44.1998%

Class russia : (2708/4506) -> accuracy: 60.0976%

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

Class france : (2127/4572) -> accuracy: 46.5223%

DEV accuracy on epoch 10/20 in train step 1009 = 54.9107%

Class turkey : (2746/4422) -> accuracy: 62.0986%

Class germany: (1734/4405) -> accuracy: 39.3644%

Class russia : (3010/4506) -> accuracy: 66.7998%

Class us : (2522/4495) -> accuracy: 56.1068%

Class france : (2288/4572) -> accuracy: 50.0437%

Epoch run time: 00:28:07

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Accuracy on test set - (14224/25000) -> accuracy: 56.8960%

Class turkey : (3534/4971) -> accuracy: 71.0923%

Class germany: (2453/5035) -> accuracy: 48.7190%

Class russia : (3099/5020) -> accuracy: 61.7331%

Class us : (2676/4954) -> accuracy: 54.0170%

Class france : (2462/5020) -> accuracy: 49.0438%