:3066: to\_int32 (from tensorflow.python.ops.math\_ops) is deprecated and will be removed in a future version.

Instructions for updating:

Use tf.cast instead.

Train on 8500 samples, validate on 1500 samples

Epoch 1/100

- 3s - loss: 0.6931 - acc: 0.5056 - val\_loss: 0.6921 - val\_acc: 0.5207

Epoch 2/100

- 1s - loss: 0.6855 - acc: 0.5692 - val\_loss: 0.6785 - val\_acc: 0.5887

Epoch 3/100

- 1s - loss: 0.6721 - acc: 0.6026 - val\_loss: 0.6709 - val\_acc: 0.5907

Epoch 4/100

- 1s - loss: 0.6623 - acc: 0.6093 - val\_loss: 0.6681 - val\_acc: 0.5847

Epoch 5/100

- 1s - loss: 0.6558 - acc: 0.6176 - val\_loss: 0.6642 - val\_acc: 0.5947

Epoch 6/100

- 1s - loss: 0.6504 - acc: 0.6286 - val\_loss: 0.6658 - val\_acc: 0.5947

Epoch 7/100

- 1s - loss: 0.6470 - acc: 0.6315 - val\_loss: 0.6638 - val\_acc: 0.5933

Epoch 8/100

- 1s - loss: 0.6420 - acc: 0.6354 - val\_loss: 0.6652 - val\_acc: 0.5927

Epoch 9/100

- 1s - loss: 0.6391 - acc: 0.6411 - val\_loss: 0.6647 - val\_acc: 0.5980

Epoch 10/100

- 1s - loss: 0.6361 - acc: 0.6371 - val\_loss: 0.6661 - val\_acc: 0.5907

Epoch 11/100

- 1s - loss: 0.6333 - acc: 0.6415 - val\_loss: 0.6655 - val\_acc: 0.5887

Epoch 12/100

- 1s - loss: 0.6314 - acc: 0.6411 - val\_loss: 0.6672 - val\_acc: 0.5887

Epoch 13/100

- 1s - loss: 0.6282 - acc: 0.6440 - val\_loss: 0.6707 - val\_acc: 0.6007

Epoch 14/100

- 1s - loss: 0.6259 - acc: 0.6476 - val\_loss: 0.6682 - val\_acc: 0.5887

Epoch 15/100

- 1s - loss: 0.6243 - acc: 0.6480 - val\_loss: 0.6696 - val\_acc: 0.5913

Epoch 16/100

- 1s - loss: 0.6207 - acc: 0.6522 - val\_loss: 0.6707 - val\_acc: 0.5880

Epoch 17/100

- 1s - loss: 0.6190 - acc: 0.6507 - val\_loss: 0.6724 - val\_acc: 0.5947

Epoch 18/100

- 1s - loss: 0.6171 - acc: 0.6515 - val\_loss: 0.6738 - val\_acc: 0.5913

Epoch 19/100

- 1s - loss: 0.6142 - acc: 0.6527 - val\_loss: 0.6757 - val\_acc: 0.5960

Epoch 20/100

- 1s - loss: 0.6130 - acc: 0.6559 - val\_loss: 0.6796 - val\_acc: 0.6040

Epoch 21/100

- 1s - loss: 0.6098 - acc: 0.6592 - val\_loss: 0.6776 - val\_acc: 0.6007

Epoch 22/100

- 1s - loss: 0.6082 - acc: 0.6594 - val\_loss: 0.6860 - val\_acc: 0.5987

Epoch 23/100

- 1s - loss: 0.6065 - acc: 0.6587 - val\_loss: 0.6846 - val\_acc: 0.5967

Epoch 24/100

- 1s - loss: 0.6060 - acc: 0.6639 - val\_loss: 0.6805 - val\_acc: 0.6000

Epoch 25/100

- 1s - loss: 0.6029 - acc: 0.6607 - val\_loss: 0.6807 - val\_acc: 0.5940

Epoch 26/100

- 1s - loss: 0.6026 - acc: 0.6621 - val\_loss: 0.6882 - val\_acc: 0.6053

Epoch 27/100

- 1s - loss: 0.6006 - acc: 0.6641 - val\_loss: 0.6880 - val\_acc: 0.6013

Epoch 28/100

- 1s - loss: 0.5989 - acc: 0.6725 - val\_loss: 0.6856 - val\_acc: 0.5953

Epoch 29/100

- 1s - loss: 0.5977 - acc: 0.6686 - val\_loss: 0.6891 - val\_acc: 0.6007

Epoch 30/100

- 1s - loss: 0.5979 - acc: 0.6693 - val\_loss: 0.6871 - val\_acc: 0.5867

Epoch 31/100

- 1s - loss: 0.5963 - acc: 0.6692 - val\_loss: 0.6876 - val\_acc: 0.5900

Epoch 32/100

- 2s - loss: 0.5938 - acc: 0.6694 - val\_loss: 0.6891 - val\_acc: 0.5940

Epoch 33/100

- 2s - loss: 0.5947 - acc: 0.6668 - val\_loss: 0.6890 - val\_acc: 0.5953

Epoch 34/100

- 2s - loss: 0.5943 - acc: 0.6679 - val\_loss: 0.6906 - val\_acc: 0.5973

Epoch 35/100

- 1s - loss: 0.5905 - acc: 0.6745 - val\_loss: 0.6924 - val\_acc: 0.6020

Epoch 36/100

- 1s - loss: 0.5919 - acc: 0.6689 - val\_loss: 0.6914 - val\_acc: 0.6013

Epoch 37/100

- 1s - loss: 0.5916 - acc: 0.6696 - val\_loss: 0.6939 - val\_acc: 0.5987

Epoch 38/100

- 1s - loss: 0.5911 - acc: 0.6699 - val\_loss: 0.6982 - val\_acc: 0.6047

Epoch 39/100

- 1s - loss: 0.5885 - acc: 0.6693 - val\_loss: 0.7015 - val\_acc: 0.6027

Epoch 40/100

- 2s - loss: 0.5886 - acc: 0.6751 - val\_loss: 0.7017 - val\_acc: 0.6073

Epoch 41/100

- 1s - loss: 0.5882 - acc: 0.6707 - val\_loss: 0.7028 - val\_acc: 0.5987

Epoch 42/100

- 1s - loss: 0.5883 - acc: 0.6705 - val\_loss: 0.7037 - val\_acc: 0.6013

Epoch 43/100

- 1s - loss: 0.5870 - acc: 0.6735 - val\_loss: 0.7011 - val\_acc: 0.6047

Epoch 44/100

- 1s - loss: 0.5865 - acc: 0.6725 - val\_loss: 0.7037 - val\_acc: 0.6033

Epoch 45/100

- 1s - loss: 0.5866 - acc: 0.6747 - val\_loss: 0.7040 - val\_acc: 0.5907

Epoch 46/100

- 1s - loss: 0.5839 - acc: 0.6755 - val\_loss: 0.7138 - val\_acc: 0.6073

Epoch 47/100

- 1s - loss: 0.5849 - acc: 0.6673 - val\_loss: 0.7080 - val\_acc: 0.6067

Epoch 48/100

- 1s - loss: 0.5848 - acc: 0.6733 - val\_loss: 0.7082 - val\_acc: 0.6033

Epoch 49/100

- 1s - loss: 0.5829 - acc: 0.6715 - val\_loss: 0.7146 - val\_acc: 0.6027

Epoch 50/100

- 1s - loss: 0.5831 - acc: 0.6714 - val\_loss: 0.7127 - val\_acc: 0.6027

Epoch 51/100

- 1s - loss: 0.5824 - acc: 0.6745 - val\_loss: 0.7171 - val\_acc: 0.5960

Epoch 52/100

- 1s - loss: 0.5832 - acc: 0.6747 - val\_loss: 0.7200 - val\_acc: 0.5947

Epoch 53/100

- 1s - loss: 0.5819 - acc: 0.6759 - val\_loss: 0.7217 - val\_acc: 0.5960

Epoch 54/100

- 1s - loss: 0.5822 - acc: 0.6712 - val\_loss: 0.7251 - val\_acc: 0.6007

Epoch 55/100

- 1s - loss: 0.5811 - acc: 0.6745 - val\_loss: 0.7268 - val\_acc: 0.6047

Epoch 56/100

- 1s - loss: 0.5810 - acc: 0.6734 - val\_loss: 0.7235 - val\_acc: 0.6000

Epoch 57/100

- 1s - loss: 0.5805 - acc: 0.6718 - val\_loss: 0.7251 - val\_acc: 0.6033

Epoch 58/100

- 1s - loss: 0.5792 - acc: 0.6739 - val\_loss: 0.7285 - val\_acc: 0.6013

Epoch 59/100

- 1s - loss: 0.5789 - acc: 0.6752 - val\_loss: 0.7291 - val\_acc: 0.5993

Epoch 60/100

- 1s - loss: 0.5791 - acc: 0.6749 - val\_loss: 0.7344 - val\_acc: 0.5987

Epoch 61/100

- 1s - loss: 0.5790 - acc: 0.6759 - val\_loss: 0.7251 - val\_acc: 0.6033

Epoch 62/100

- 1s - loss: 0.5783 - acc: 0.6755 - val\_loss: 0.7217 - val\_acc: 0.6060

Epoch 63/100

- 1s - loss: 0.5789 - acc: 0.6721 - val\_loss: 0.7232 - val\_acc: 0.6040

Epoch 64/100

- 1s - loss: 0.5785 - acc: 0.6721 - val\_loss: 0.7271 - val\_acc: 0.6013

Epoch 65/100

- 1s - loss: 0.5781 - acc: 0.6744 - val\_loss: 0.7368 - val\_acc: 0.6000

Epoch 66/100

- 1s - loss: 0.5773 - acc: 0.6775 - val\_loss: 0.7330 - val\_acc: 0.6020

Epoch 67/100

- 1s - loss: 0.5766 - acc: 0.6795 - val\_loss: 0.7411 - val\_acc: 0.5920

Epoch 68/100

- 1s - loss: 0.5772 - acc: 0.6760 - val\_loss: 0.7465 - val\_acc: 0.5980

Epoch 69/100

- 1s - loss: 0.5765 - acc: 0.6748 - val\_loss: 0.7400 - val\_acc: 0.5913

Epoch 70/100

- 1s - loss: 0.5771 - acc: 0.6712 - val\_loss: 0.7432 - val\_acc: 0.5967

Epoch 71/100

- 1s - loss: 0.5757 - acc: 0.6744 - val\_loss: 0.7363 - val\_acc: 0.5987

Epoch 72/100

- 1s - loss: 0.5751 - acc: 0.6765 - val\_loss: 0.7421 - val\_acc: 0.6047

Epoch 73/100

- 1s - loss: 0.5756 - acc: 0.6767 - val\_loss: 0.7387 - val\_acc: 0.6060

Epoch 74/100

- 1s - loss: 0.5767 - acc: 0.6769 - val\_loss: 0.7435 - val\_acc: 0.6053

Epoch 75/100

- 1s - loss: 0.5771 - acc: 0.6748 - val\_loss: 0.7387 - val\_acc: 0.6033

Epoch 76/100

- 1s - loss: 0.5763 - acc: 0.6764 - val\_loss: 0.7356 - val\_acc: 0.6060

Epoch 77/100

- 1s - loss: 0.5764 - acc: 0.6781 - val\_loss: 0.7495 - val\_acc: 0.6033

Epoch 78/100

- 1s - loss: 0.5734 - acc: 0.6772 - val\_loss: 0.7417 - val\_acc: 0.6100

Epoch 79/100

- 1s - loss: 0.5741 - acc: 0.6734 - val\_loss: 0.7450 - val\_acc: 0.6053

Epoch 80/100

- 1s - loss: 0.5747 - acc: 0.6753 - val\_loss: 0.7495 - val\_acc: 0.6047

Epoch 81/100

- 1s - loss: 0.5735 - acc: 0.6768 - val\_loss: 0.7480 - val\_acc: 0.5980

Epoch 82/100

- 1s - loss: 0.5742 - acc: 0.6761 - val\_loss: 0.7492 - val\_acc: 0.6053

Epoch 83/100

- 2s - loss: 0.5726 - acc: 0.6761 - val\_loss: 0.7439 - val\_acc: 0.6013

Epoch 84/100

- 1s - loss: 0.5738 - acc: 0.6786 - val\_loss: 0.7509 - val\_acc: 0.6067

Epoch 85/100

- 1s - loss: 0.5732 - acc: 0.6735 - val\_loss: 0.7502 - val\_acc: 0.6040

Epoch 86/100

- 1s - loss: 0.5739 - acc: 0.6760 - val\_loss: 0.7464 - val\_acc: 0.6040

Epoch 87/100

- 1s - loss: 0.5761 - acc: 0.6738 - val\_loss: 0.7516 - val\_acc: 0.6087

Epoch 88/100

- 1s - loss: 0.5723 - acc: 0.6771 - val\_loss: 0.7435 - val\_acc: 0.6033

Epoch 89/100

- 1s - loss: 0.5724 - acc: 0.6754 - val\_loss: 0.7541 - val\_acc: 0.6080

Epoch 90/100

- 1s - loss: 0.5736 - acc: 0.6752 - val\_loss: 0.7514 - val\_acc: 0.6053

Epoch 91/100

- 1s - loss: 0.5724 - acc: 0.6776 - val\_loss: 0.7572 - val\_acc: 0.6053

Epoch 92/100

- 1s - loss: 0.5727 - acc: 0.6785 - val\_loss: 0.7547 - val\_acc: 0.6020

Epoch 93/100

- 1s - loss: 0.5722 - acc: 0.6767 - val\_loss: 0.7569 - val\_acc: 0.6047

Epoch 94/100

- 2s - loss: 0.5730 - acc: 0.6754 - val\_loss: 0.7570 - val\_acc: 0.6047

Epoch 95/100

- 1s - loss: 0.5709 - acc: 0.6820 - val\_loss: 0.7589 - val\_acc: 0.6067

Epoch 96/100

- 1s - loss: 0.5717 - acc: 0.6773 - val\_loss: 0.7620 - val\_acc: 0.6013

Epoch 97/100

- 1s - loss: 0.5716 - acc: 0.6765 - val\_loss: 0.7615 - val\_acc: 0.6127

Epoch 98/100

- 1s - loss: 0.5704 - acc: 0.6788 - val\_loss: 0.7575 - val\_acc: 0.6067

Epoch 99/100

- 1s - loss: 0.5709 - acc: 0.6779 - val\_loss: 0.7749 - val\_acc: 0.6060

Epoch 100/100

- 1s - loss: 0.5719 - acc: 0.6767 - val\_loss: 0.7616 - val\_acc: 0.6087