Epoch

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```
0/99 d:\Anaconda\envs\Controlnet\lib\site-
Epoch
packages\torch\nn\functional.py:5504: UserWarning: 1Torch was not compiled with
flash attention. (Triggered internally at
C:\cb\pytorch 10000000000\work\aten\src\ATen\native\transformers\cuda\sdp
utils.cpp:455.)
  attn_output = scaled_dot_product_attention(q, k, v, attn_mask, dropout_p,
is causal)
train Loss: 2.4343 Acc: 0.1500 val Loss: 2.2468 Acc: 0.2064
Epoch
         1/99 train Loss: 2.2571 Acc: 0.2034 val Loss: 2.3332 Acc: 0.1941
         2/99 train Loss: 2.2555 Acc: 0.1881 val Loss: 2.1968 Acc: 0.2211
Epoch
Epoch
         3/99 train Loss: 2.1793 Acc: 0.2237 val Loss: 2.1372 Acc: 0.2285
Epoch
         4/99 train Loss: 2.1488 Acc: 0.2293 val Loss: 2.0677 Acc: 0.2703
         5/99 train Loss: 2.1439 Acc: 0.2379 val Loss: 2.0747 Acc: 0.2826
Epoch
Epoch
         6/99 train Loss: 2.0955 Acc: 0.2526 val Loss: 2.0171 Acc: 0.3047
         7/99 train Loss: 2.0655 Acc: 0.2698 val Loss: 2.0798 Acc: 0.2555
Epoch
Epoch
         8/99 train Loss: 2.0558 Acc: 0.2815 val Loss: 2.0876 Acc: 0.2703
Epoch
         9/99 train Loss: 2.0308 Acc: 0.2993 val Loss: 2.0406 Acc: 0.2654
Epoch
        10/99 train Loss: 2.0213 Acc: 0.2981 val Loss: 2.0399 Acc: 0.2924
        11/99 train Loss: 1.9851 Acc: 0.3049 val Loss: 1.9445 Acc: 0.3317
Epoch
        12/99 train Loss: 1.9937 Acc: 0.3006 val Loss: 1.9619 Acc: 0.3120
Epoch
Epoch
        13/99 train Loss: 1.9619 Acc: 0.3331 val Loss: 1.9744 Acc: 0.3096
        14/99 train Loss: 1.9688 Acc: 0.3079 val Loss: 1.9397 Acc: 0.3292
Epoch
Epoch
        15/99 train Loss: 1.9611 Acc: 0.3128 val Loss: 1.9501 Acc: 0.3194
        16/99 train Loss: 1.9270 Acc: 0.3344 val Loss: 1.9358 Acc: 0.3366
Epoch
Epoch
        17/99 train Loss: 1.9075 Acc: 0.3374 val Loss: 1.9383 Acc: 0.3219
Epoch
        18/99 train Loss: 1.8812 Acc: 0.3417 val Loss: 1.9726 Acc: 0.2899
        19/99 train Loss: 1.8845 Acc: 0.3399 val Loss: 1.9432 Acc: 0.3268
Epoch
Epoch
        20/99 train Loss: 1.8898 Acc: 0.3399 val Loss: 1.9314 Acc: 0.3145
        21/99 train Loss: 1.8892 Acc: 0.3337 val Loss: 1.9042 Acc: 0.3342
Epoch
        22/99 train Loss: 1.8660 Acc: 0.3460 val Loss: 1.8771 Acc: 0.3342
Epoch
        23/99 train Loss: 1.9002 Acc: 0.3288 val Loss: 1.9117 Acc: 0.3489
Epoch
        24/99 train Loss: 1.8260 Acc: 0.3516 val Loss: 1.8769 Acc: 0.3366
Epoch
Epoch
        25/99 train Loss: 1.8202 Acc: 0.3675 val Loss: 1.9510 Acc: 0.3219
        26/99 train Loss: 1.8072 Acc: 0.3762 val Loss: 1.9906 Acc: 0.2973
Epoch
        27/99 train Loss: 1.7939 Acc: 0.3854 val Loss: 1.9091 Acc: 0.3342
Epoch
```

28/99 train Loss: 1.7854 Acc: 0.3903 val Loss: 1.8750 Acc: 0.3563

```
Epoch
        29/99 train Loss: 1.7708 Acc: 0.3848 val Loss: 1.9364 Acc: 0.3170
Epoch
        30/99 train Loss: 1.7793 Acc: 0.3731 val Loss: 1.8631 Acc: 0.3636
Epoch
        31/99 train Loss: 1.7620 Acc: 0.3805 val Loss: 1.9122 Acc: 0.3440
        32/99 train Loss: 1.7365 Acc: 0.3952 val Loss: 1.9272 Acc: 0.3219
Epoch
Epoch
        33/99 train Loss: 1.7262 Acc: 0.3921 val Loss: 1.8946 Acc: 0.3342
Epoch
        34/99 train Loss: 1.7357 Acc: 0.3878 val Loss: 1.8631 Acc: 0.3636
        35/99 train Loss: 1.7086 Acc: 0.4026 val Loss: 1.8582 Acc: 0.3317
Epoch
Epoch
        36/99 train Loss: 1.6867 Acc: 0.4093 val Loss: 1.9907 Acc: 0.3514
Epoch
        37/99 train Loss: 1.6786 Acc: 0.3995 val Loss: 2.0013 Acc: 0.3391
Epoch
        38/99 train Loss: 1.6910 Acc: 0.4100 val Loss: 1.8459 Acc: 0.3735
Epoch
        39/99 train Loss: 1.6480 Acc: 0.4253 val Loss: 1.9280 Acc: 0.3415
        40/99 train Loss: 1.6355 Acc: 0.4155 val Loss: 1.9062 Acc: 0.3317
Epoch
Epoch
        41/99 train Loss: 1.6372 Acc: 0.4173 val Loss: 1.8981 Acc: 0.3317
Epoch
       42/99 train Loss: 1.5977 Acc: 0.4321 val Loss: 1.8539 Acc: 0.3292
        43/99 train Loss: 1.6000 Acc: 0.4419 val Loss: 1.9158 Acc: 0.3587
Epoch
Epoch
        44/99 train Loss: 1.5980 Acc: 0.4382 val Loss: 1.9419 Acc: 0.3686
        45/99 train Loss: 1.5759 Acc: 0.4438 val Loss: 1.9638 Acc: 0.3268
Epoch
Epoch
        46/99 train Loss: 1.5847 Acc: 0.4450 val Loss: 1.9057 Acc: 0.3415
Epoch
        47/99 train Loss: 1.5592 Acc: 0.4499 val Loss: 1.9559 Acc: 0.3170
Epoch
        48/99 train Loss: 1.6037 Acc: 0.4413 val Loss: 1.9568 Acc: 0.3194
        49/99 train Loss: 1.5748 Acc: 0.4395 val Loss: 1.9316 Acc: 0.3194
Epoch
        50/99 train Loss: 1.5611 Acc: 0.4554 val Loss: 1.8924 Acc: 0.3464
Epoch
Epoch
       51/99 train Loss: 1.5317 Acc: 0.4690 val Loss: 1.8735 Acc: 0.3366
        52/99 train Loss: 1.4625 Acc: 0.4757 val Loss: 1.9029 Acc: 0.3391
Epoch
Epoch
        53/99 train Loss: 1.4489 Acc: 0.4726 val Loss: 1.8754 Acc: 0.3735
Epoch
        54/99 train Loss: 1.4560 Acc: 0.4868 val Loss: 1.9046 Acc: 0.3538
        55/99 train Loss: 1.4460 Acc: 0.5046 val Loss: 2.0052 Acc: 0.3784
Epoch
Epoch 56/99 train Loss: 1.4573 Acc: 0.5009 val Loss: 1.9856 Acc: 0.3342
Epoch 57/99 train Loss: 1.4172 Acc: 0.4917 val Loss: 1.9251 Acc: 0.3759
Epoch
        58/99 train Loss: 1.4250 Acc: 0.4991 val Loss: 1.9162 Acc: 0.3636
        59/99 train Loss: 1.3946 Acc: 0.5028 val Loss: 1.9425 Acc: 0.3686
Epoch
Training complete in 40m 35s
```

D--1 -1 A-- 0.370370

Best val Acc: 0.378378

Fold 1 test Loss: 1.9979 Acc: 0.3143

Epoch 0/99 train Loss: 2.5697 Acc: 0.1094 val Loss: 2.4322 Acc: 0.1081 Epoch 1/99 train Loss: 2.3573 Acc: 0.1512 val Loss: 2.3566 Acc: 0.1720 Epoch 2/99 train Loss: 2.2941 Acc: 0.1573 val Loss: 2.2477 Acc: 0.1794

```
Epoch
         3/99 train Loss: 2.2407 Acc: 0.1924 val Loss: 2.1772 Acc: 0.2334
Epoch
         4/99 train Loss: 2.2322 Acc: 0.1881 val Loss: 2.1987 Acc: 0.2285
         5/99 train Loss: 2.1870 Acc: 0.2034 val Loss: 2.1682 Acc: 0.1966
Epoch
Epoch
         6/99 train Loss: 2.1574 Acc: 0.2139 val Loss: 2.1416 Acc: 0.2285
Epoch
         7/99 train Loss: 2.1384 Acc: 0.2157 val Loss: 2.1425 Acc: 0.2162
         8/99 train Loss: 2.1360 Acc: 0.2342 val Loss: 2.1402 Acc: 0.2310
Epoch
Epoch
         9/99 train Loss: 2.0961 Acc: 0.2397 val Loss: 2.1137 Acc: 0.2310
        10/99 train Loss: 2.0980 Acc: 0.2575 val Loss: 2.0506 Acc: 0.2776
Epoch
Epoch
        11/99 train Loss: 2.0643 Acc: 0.2624 val Loss: 2.0415 Acc: 0.2826
Epoch
        12/99 train Loss: 2.1114 Acc: 0.2440 val Loss: 2.1386 Acc: 0.2604
Epoch
        13/99 train Loss: 2.0419 Acc: 0.2827 val Loss: 2.0544 Acc: 0.2899
        14/99 train Loss: 2.0764 Acc: 0.2624 val Loss: 2.0291 Acc: 0.3071
Epoch
Epoch
        15/99 train Loss: 2.0406 Acc: 0.2667 val Loss: 2.0466 Acc: 0.2826
Epoch
        16/99 train Loss: 2.0043 Acc: 0.2840 val Loss: 2.0785 Acc: 0.2899
        17/99 train Loss: 1.9751 Acc: 0.3018 val Loss: 1.9789 Acc: 0.3415
Epoch
Epoch
        18/99 train Loss: 1.9959 Acc: 0.2840 val Loss: 2.0533 Acc: 0.2948
        19/99 train Loss: 1.9676 Acc: 0.2956 val Loss: 2.0178 Acc: 0.3022
Epoch
Epoch
        20/99 train Loss: 1.9438 Acc: 0.3128 val Loss: 2.0170 Acc: 0.3170
Epoch
        21/99 train Loss: 1.9614 Acc: 0.3067 val Loss: 1.9712 Acc: 0.3243
Epoch
        22/99 train Loss: 1.9466 Acc: 0.3042 val Loss: 1.9962 Acc: 0.2998
        23/99 train Loss: 1.9250 Acc: 0.3141 val Loss: 2.0356 Acc: 0.2801
Epoch
        24/99 train Loss: 1.9535 Acc: 0.3049 val Loss: 1.9692 Acc: 0.3342
Epoch
Epoch
        25/99 train Loss: 1.9038 Acc: 0.3294 val Loss: 2.0470 Acc: 0.2899
        26/99 train Loss: 1.9099 Acc: 0.3227 val Loss: 1.9642 Acc: 0.3268
Epoch
Epoch
        27/99 train Loss: 1.8954 Acc: 0.3239 val Loss: 1.9330 Acc: 0.3440
Epoch
        28/99 train Loss: 1.8873 Acc: 0.3368 val Loss: 1.9434 Acc: 0.3292
Epoch
        29/99 train Loss: 1.8815 Acc: 0.3387 val Loss: 1.9712 Acc: 0.3047
Epoch
        30/99 train Loss: 1.8591 Acc: 0.3288 val Loss: 1.9615 Acc: 0.3170
Epoch
        31/99 train Loss: 1.8556 Acc: 0.3516 val Loss: 1.9618 Acc: 0.3268
Epoch
        32/99 train Loss: 1.8607 Acc: 0.3307 val Loss: 1.9950 Acc: 0.3120
        33/99 train Loss: 1.8485 Acc: 0.3467 val Loss: 1.9813 Acc: 0.3440
Epoch
        34/99 train Loss: 1.8346 Acc: 0.3485 val Loss: 1.8790 Acc: 0.3415
Epoch
Epoch
        35/99 train Loss: 1.8163 Acc: 0.3620 val Loss: 1.9226 Acc: 0.3759
        36/99 train Loss: 1.8202 Acc: 0.3430 val Loss: 1.9613 Acc: 0.3292
Epoch
Epoch
        37/99 train Loss: 1.7784 Acc: 0.3608 val Loss: 1.9877 Acc: 0.3489
        38/99 train Loss: 1.7744 Acc: 0.3675 val Loss: 1.9389 Acc: 0.3415
Epoch
        39/99 train Loss: 1.7838 Acc: 0.3706 val Loss: 1.9549 Acc: 0.3243
Epoch
        40/99 train Loss: 1.8199 Acc: 0.3405 val Loss: 1.9668 Acc: 0.3415
Epoch
```

```
Epoch
        41/99 train Loss: 1.8116 Acc: 0.3534 val Loss: 1.9311 Acc: 0.3489
Epoch
        42/99 train Loss: 1.7717 Acc: 0.3651 val Loss: 1.9977 Acc: 0.3145
        43/99 train Loss: 1.7605 Acc: 0.3983 val Loss: 1.9609 Acc: 0.3661
Epoch
Epoch
       44/99 train Loss: 1.7316 Acc: 0.3829 val Loss: 1.9387 Acc: 0.3440
Epoch
        45/99 train Loss: 1.7379 Acc: 0.3743 val Loss: 2.0191 Acc: 0.3563
Epoch
        46/99 train Loss: 1.7232 Acc: 0.3989 val Loss: 1.9231 Acc: 0.3391
        47/99 train Loss: 1.7061 Acc: 0.3903 val Loss: 1.8914 Acc: 0.3833
Epoch
Epoch
        48/99 train Loss: 1.7422 Acc: 0.3866 val Loss: 1.9058 Acc: 0.3563
Epoch
       49/99 train Loss: 1.6896 Acc: 0.3995 val Loss: 1.9350 Acc: 0.3857
Epoch
        50/99 train Loss: 1.7091 Acc: 0.3878 val Loss: 1.9826 Acc: 0.3366
Epoch
        51/99 train Loss: 1.6628 Acc: 0.4087 val Loss: 1.9566 Acc: 0.3661
        52/99 train Loss: 1.7522 Acc: 0.3817 val Loss: 1.9607 Acc: 0.3636
Epoch
Epoch
        53/99 train Loss: 1.6914 Acc: 0.3878 val Loss: 1.8819 Acc: 0.3489
Epoch
        54/99 train Loss: 1.6486 Acc: 0.4247 val Loss: 2.0412 Acc: 0.3391
Epoch
        55/99 train Loss: 1.6708 Acc: 0.4173 val Loss: 1.8954 Acc: 0.3686
```

Training complete in 37m 53s

Best val Acc: 0.385749

Fold 2 test Loss: 1.9794 Acc: 0.3242

Epoch 0/99 train Loss: 2.4253 Acc: 0.1407 val Loss: 2.2348 Acc: 0.1916 1/99 train Loss: 2.2444 Acc: 0.1911 val Loss: 2.2205 Acc: 0.1990 Epoch Epoch 2/99 train Loss: 2.2289 Acc: 0.2145 val Loss: 2.2897 Acc: 0.1867 Epoch 3/99 train Loss: 2.1985 Acc: 0.2053 val Loss: 2.2123 Acc: 0.2015 4/99 train Loss: 2.1441 Acc: 0.2397 val Loss: 2.1983 Acc: 0.2015 Epoch Epoch 5/99 train Loss: 2.1124 Acc: 0.2471 val Loss: 2.1633 Acc: 0.1966 Epoch 6/99 train Loss: 2.0850 Acc: 0.2538 val Loss: 2.0886 Acc: 0.2973 Epoch 7/99 train Loss: 2.2454 Acc: 0.2071 val Loss: 2.4355 Acc: 0.1794 Epoch 8/99 train Loss: 2.3174 Acc: 0.1672 val Loss: 2.3498 Acc: 0.1253 Epoch 9/99 train Loss: 2.3174 Acc: 0.1709 val Loss: 2.3103 Acc: 0.1523 Epoch 10/99 train Loss: 2.2411 Acc: 0.2090 val Loss: 2.2857 Acc: 0.1695 11/99 train Loss: 2.2110 Acc: 0.2108 val Loss: 2.2144 Acc: 0.1966 Epoch 12/99 train Loss: 2.1757 Acc: 0.2237 val Loss: 2.2315 Acc: 0.2088 Epoch Epoch 13/99 train Loss: 2.1751 Acc: 0.2213 val Loss: 2.1819 Acc: 0.2088 14/99 train Loss: 2.1190 Acc: 0.2477 val Loss: 2.1874 Acc: 0.2531 Epoch Epoch 15/99 train Loss: 2.1201 Acc: 0.2459 val Loss: 2.1014 Acc: 0.2629 16/99 train Loss: 2.0829 Acc: 0.2711 val Loss: 2.0936 Acc: 0.2604 Epoch 17/99 train Loss: 2.0979 Acc: 0.2581 val Loss: 2.1131 Acc: 0.2654 Epoch Epoch 18/99 train Loss: 2.0863 Acc: 0.2618 val Loss: 2.0842 Acc: 0.2703

```
Epoch
        19/99 train Loss: 2.0769 Acc: 0.2655 val Loss: 2.0681 Acc: 0.2973
Epoch
        20/99 train Loss: 2.0380 Acc: 0.2950 val Loss: 2.1210 Acc: 0.2580
Epoch
        21/99 train Loss: 2.0700 Acc: 0.2631 val Loss: 2.1351 Acc: 0.2383
Epoch
        22/99 train Loss: 2.0535 Acc: 0.2784 val Loss: 2.0773 Acc: 0.2801
Epoch
        23/99 train Loss: 2.0315 Acc: 0.2913 val Loss: 2.0487 Acc: 0.2776
        24/99 train Loss: 1.9990 Acc: 0.2858 val Loss: 2.1444 Acc: 0.2727
Epoch
        25/99 train Loss: 2.0201 Acc: 0.2895 val Loss: 2.0923 Acc: 0.2826
Epoch
Epoch
        26/99 train Loss: 1.9838 Acc: 0.3092 val Loss: 2.0410 Acc: 0.2973
Epoch
        27/99 train Loss: 1.9834 Acc: 0.2950 val Loss: 2.0047 Acc: 0.3194
Epoch
        28/99 train Loss: 1.9539 Acc: 0.2981 val Loss: 2.1272 Acc: 0.2703
Epoch
        29/99 train Loss: 1.9934 Acc: 0.2981 val Loss: 2.0440 Acc: 0.2948
        30/99 train Loss: 1.9504 Acc: 0.3221 val Loss: 2.0356 Acc: 0.3317
Epoch
Epoch
        31/99 train Loss: 1.9652 Acc: 0.3141 val Loss: 2.0014 Acc: 0.2875
Epoch
        32/99 train Loss: 1.9445 Acc: 0.3092 val Loss: 2.0511 Acc: 0.3170
        33/99 train Loss: 1.9299 Acc: 0.3184 val Loss: 2.0151 Acc: 0.3170
Epoch
Epoch
        34/99 train Loss: 1.9679 Acc: 0.3098 val Loss: 1.9867 Acc: 0.3268
        35/99 train Loss: 1.9234 Acc: 0.3208 val Loss: 2.0780 Acc: 0.2924
Epoch
Epoch
        36/99 train Loss: 1.9101 Acc: 0.3350 val Loss: 2.0088 Acc: 0.3292
Epoch
        37/99 train Loss: 1.9228 Acc: 0.3233 val Loss: 2.0605 Acc: 0.2948
        38/99 train Loss: 1.9275 Acc: 0.3307 val Loss: 1.9878 Acc: 0.3292
Epoch
        39/99 train Loss: 1.9186 Acc: 0.3288 val Loss: 2.0493 Acc: 0.2875
Epoch
        40/99 train Loss: 1.9461 Acc: 0.3337 val Loss: 2.0429 Acc: 0.3022
Epoch
Epoch
        41/99 train Loss: 1.9319 Acc: 0.3380 val Loss: 1.9827 Acc: 0.3415
        42/99 train Loss: 1.8639 Acc: 0.3325 val Loss: 1.9863 Acc: 0.3170
Epoch
Epoch
        43/99 train Loss: 1.8783 Acc: 0.3190 val Loss: 2.0617 Acc: 0.2826
Epoch
        44/99 train Loss: 1.8789 Acc: 0.3356 val Loss: 2.0023 Acc: 0.3366
Epoch
        45/99 train Loss: 1.8994 Acc: 0.3301 val Loss: 1.9675 Acc: 0.3317
Epoch
        46/99 train Loss: 1.8563 Acc: 0.3473 val Loss: 1.9305 Acc: 0.3464
        47/99 train Loss: 1.8439 Acc: 0.3583 val Loss: 1.9625 Acc: 0.3096
Epoch
Epoch
        48/99 train Loss: 1.8464 Acc: 0.3620 val Loss: 1.9680 Acc: 0.3415
        49/99 train Loss: 1.8499 Acc: 0.3362 val Loss: 1.9594 Acc: 0.3096
Epoch
        50/99 train Loss: 1.8518 Acc: 0.3510 val Loss: 1.9583 Acc: 0.3145
Epoch
Epoch
        51/99 train Loss: 1.8387 Acc: 0.3510 val Loss: 1.9467 Acc: 0.3292
        52/99 train Loss: 1.7772 Acc: 0.3749 val Loss: 1.9514 Acc: 0.3440
Epoch
Epoch
        53/99 train Loss: 1.7583 Acc: 0.3694 val Loss: 1.9656 Acc: 0.3292
        54/99 train Loss: 1.8018 Acc: 0.3663 val Loss: 1.9637 Acc: 0.3514
Epoch
        55/99 train Loss: 1.8080 Acc: 0.3669 val Loss: 1.9953 Acc: 0.3464
Epoch
Epoch
        56/99 train Loss: 1.7764 Acc: 0.3823 val Loss: 1.9128 Acc: 0.3563
```

```
Epoch
        57/99 train Loss: 1.7848 Acc: 0.3694 val Loss: 1.9984 Acc: 0.3145
Epoch
        58/99 train Loss: 1.7611 Acc: 0.3866 val Loss: 1.9615 Acc: 0.3342
        59/99 train Loss: 1.8246 Acc: 0.3559 val Loss: 1.9604 Acc: 0.3145
Epoch
        60/99 train Loss: 1.7597 Acc: 0.3682 val Loss: 2.0039 Acc: 0.3120
Epoch
Epoch
        61/99 train Loss: 1.7338 Acc: 0.3977 val Loss: 1.9071 Acc: 0.3636
Epoch
        62/99 train Loss: 1.7090 Acc: 0.4069 val Loss: 1.9465 Acc: 0.3391
        63/99 train Loss: 1.7262 Acc: 0.4020 val Loss: 1.9839 Acc: 0.3415
Epoch
Epoch
        64/99 train Loss: 1.7095 Acc: 0.3952 val Loss: 1.9987 Acc: 0.3538
Epoch
        65/99 train Loss: 1.7442 Acc: 0.3798 val Loss: 1.8670 Acc: 0.3735
Epoch
        66/99 train Loss: 1.7059 Acc: 0.4026 val Loss: 1.9364 Acc: 0.3514
Epoch
        67/99 train Loss: 1.7084 Acc: 0.4075 val Loss: 1.8896 Acc: 0.3686
        68/99 train Loss: 1.6989 Acc: 0.4032 val Loss: 1.9178 Acc: 0.3317
Epoch
Epoch
        69/99 train Loss: 1.7101 Acc: 0.3817 val Loss: 1.9175 Acc: 0.3538
Epoch
        70/99 train Loss: 1.6574 Acc: 0.4155 val Loss: 1.8602 Acc: 0.3833
        71/99 train Loss: 1.6161 Acc: 0.4327 val Loss: 2.0433 Acc: 0.3170
Epoch
Epoch
        72/99 train Loss: 1.6406 Acc: 0.4167 val Loss: 1.8868 Acc: 0.3563
Epoch
        73/99 train Loss: 1.6414 Acc: 0.4124 val Loss: 1.9639 Acc: 0.3219
Epoch
        74/99 train Loss: 1.5943 Acc: 0.4364 val Loss: 1.9789 Acc: 0.3440
Epoch
        75/99 train Loss: 1.6709 Acc: 0.4241 val Loss: 1.9047 Acc: 0.3268
Epoch
        76/99 train Loss: 1.6374 Acc: 0.4327 val Loss: 1.9127 Acc: 0.3391
        77/99 train Loss: 1.5839 Acc: 0.4376 val Loss: 1.9465 Acc: 0.3710
Epoch
        78/99 train Loss: 1.6286 Acc: 0.4241 val Loss: 1.9343 Acc: 0.3710
Epoch
Epoch
        79/99 train Loss: 1.5773 Acc: 0.4481 val Loss: 2.0144 Acc: 0.3292
        80/99 train Loss: 1.6028 Acc: 0.4302 val Loss: 1.9117 Acc: 0.3563
Epoch
Epoch
        81/99 train Loss: 1.5707 Acc: 0.4315 val Loss: 1.9550 Acc: 0.3587
Epoch
        82/99 train Loss: 1.5336 Acc: 0.4653 val Loss: 1.9841 Acc: 0.3342
        83/99 train Loss: 1.5529 Acc: 0.4561 val Loss: 1.9248 Acc: 0.3612
Epoch
Epoch
        84/99 train Loss: 1.5564 Acc: 0.4481 val Loss: 1.9477 Acc: 0.3317
        85/99 train Loss: 1.5002 Acc: 0.4745 val Loss: 1.9876 Acc: 0.3612
Epoch
Epoch
        86/99 train Loss: 1.5116 Acc: 0.4493 val Loss: 1.9262 Acc: 0.3686
        87/99 train Loss: 1.5200 Acc: 0.4622 val Loss: 1.9098 Acc: 0.3538
Epoch
        88/99 train Loss: 1.4987 Acc: 0.4677 val Loss: 1.9818 Acc: 0.3415
Epoch
Epoch 89/99 train Loss: 1.4756 Acc: 0.4671 val Loss: 1.9973 Acc: 0.3366
       90/99 train Loss: 1.4706 Acc: 0.4770 val Loss: 1.9499 Acc: 0.3415
Epoch
        91/99 train Loss: 1.5303 Acc: 0.4554 val Loss: 1.9905 Acc: 0.3292
Training complete in 62m 13s
```

Best val Acc: 0.383292

Fold 3 test Loss: 1.9566 Acc: 0.3360

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```
Epoch
         0/99 train Loss: 2.4911 Acc: 0.1357 val Loss: 2.3761 Acc: 0.1106
         1/99 train Loss: 2.2842 Acc: 0.1812 val Loss: 2.2292 Acc: 0.2432
Epoch
Epoch
         2/99 train Loss: 2.2315 Acc: 0.1916 val Loss: 2.1815 Acc: 0.2482
Epoch
         3/99 train Loss: 2.2048 Acc: 0.2082 val Loss: 2.1339 Acc: 0.2334
         4/99 train Loss: 2.1611 Acc: 0.2383 val Loss: 2.1369 Acc: 0.2015
Epoch
Epoch
         5/99 train Loss: 2.1501 Acc: 0.2359 val Loss: 2.1162 Acc: 0.2531
Epoch
         6/99 train Loss: 2.1095 Acc: 0.2574 val Loss: 2.0949 Acc: 0.2826
Epoch
         7/99 train Loss: 2.0904 Acc: 0.2543 val Loss: 2.0545 Acc: 0.3120
Epoch
         8/99 train Loss: 2.2789 Acc: 0.1720 val Loss: 2.3698 Acc: 0.1597
Epoch
         9/99 train Loss: 2.3312 Acc: 0.1665 val Loss: 2.3079 Acc: 0.1867
        10/99 train Loss: 2.4168 Acc: 0.1652 val Loss: 2.4353 Acc: 0.1179
Epoch
Epoch
        11/99 train Loss: 2.3500 Acc: 0.1585 val Loss: 2.2933 Acc: 0.1744
Epoch
        12/99 train Loss: 2.3147 Acc: 0.1732 val Loss: 2.2723 Acc: 0.1966
        13/99 train Loss: 2.2592 Acc: 0.1787 val Loss: 2.2570 Acc: 0.1916
Epoch
Epoch
        14/99 train Loss: 2.1966 Acc: 0.2101 val Loss: 2.1673 Acc: 0.2334
        15/99 train Loss: 2.1674 Acc: 0.2260 val Loss: 2.1451 Acc: 0.2482
Epoch
Epoch
        16/99 train Loss: 2.1498 Acc: 0.2322 val Loss: 2.1527 Acc: 0.2432
Epoch
        17/99 train Loss: 2.1198 Acc: 0.2469 val Loss: 2.0866 Acc: 0.2604
Epoch
        18/99 train Loss: 2.1146 Acc: 0.2439 val Loss: 2.0588 Acc: 0.2875
        19/99 train Loss: 2.0983 Acc: 0.2383 val Loss: 2.0143 Acc: 0.3120
Epoch
        20/99 train Loss: 2.0808 Acc: 0.2604 val Loss: 2.0639 Acc: 0.2604
Epoch
Epoch
        21/99 train Loss: 2.0792 Acc: 0.2592 val Loss: 2.0857 Acc: 0.2383
        22/99 train Loss: 2.0682 Acc: 0.2709 val Loss: 2.0397 Acc: 0.2924
Epoch
Epoch
        23/99 train Loss: 2.0458 Acc: 0.2801 val Loss: 2.0430 Acc: 0.2850
        24/99 train Loss: 2.0399 Acc: 0.2813 val Loss: 2.0199 Acc: 0.3243
Epoch
Epoch
        25/99 train Loss: 1.9974 Acc: 0.2991 val Loss: 2.0373 Acc: 0.2850
Epoch
        26/99 train Loss: 2.0145 Acc: 0.2979 val Loss: 1.9802 Acc: 0.2850
Epoch
        27/99 train Loss: 1.9801 Acc: 0.3145 val Loss: 2.0370 Acc: 0.2654
Epoch
        28/99 train Loss: 1.9957 Acc: 0.2967 val Loss: 2.0181 Acc: 0.2678
        29/99 train Loss: 1.9938 Acc: 0.3096 val Loss: 2.0104 Acc: 0.3219
Epoch
        30/99 train Loss: 1.9923 Acc: 0.3016 val Loss: 2.0045 Acc: 0.3145
Epoch
Epoch
        31/99 train Loss: 1.9346 Acc: 0.3256 val Loss: 1.9975 Acc: 0.2973
        32/99 train Loss: 1.9664 Acc: 0.3139 val Loss: 1.9947 Acc: 0.2752
Epoch
Epoch
        33/99 train Loss: 1.9586 Acc: 0.3157 val Loss: 2.0353 Acc: 0.2875
        34/99 train Loss: 1.9301 Acc: 0.3206 val Loss: 2.0306 Acc: 0.3219
Epoch
        35/99 train Loss: 1.9406 Acc: 0.3219 val Loss: 1.9646 Acc: 0.3219
Epoch
        36/99 train Loss: 1.9066 Acc: 0.3360 val Loss: 1.9548 Acc: 0.3022
Epoch
```

```
Epoch
        37/99 train Loss: 1.9123 Acc: 0.3366 val Loss: 1.9824 Acc: 0.3268
Epoch
        38/99 train Loss: 1.9220 Acc: 0.3366 val Loss: 1.9973 Acc: 0.3145
        39/99 train Loss: 1.8793 Acc: 0.3403 val Loss: 1.9836 Acc: 0.2850
Epoch
Epoch
        40/99 train Loss: 1.8726 Acc: 0.3557 val Loss: 1.9595 Acc: 0.3071
Epoch
        41/99 train Loss: 1.8962 Acc: 0.3428 val Loss: 1.9633 Acc: 0.3292
Epoch
        42/99 train Loss: 1.8731 Acc: 0.3514 val Loss: 2.0094 Acc: 0.3292
        43/99 train Loss: 1.9005 Acc: 0.3262 val Loss: 1.9735 Acc: 0.3317
Epoch
Epoch
        44/99 train Loss: 1.8581 Acc: 0.3471 val Loss: 1.9365 Acc: 0.3120
Epoch
        45/99 train Loss: 1.8196 Acc: 0.3649 val Loss: 1.9599 Acc: 0.3096
Epoch
        46/99 train Loss: 1.8476 Acc: 0.3434 val Loss: 1.9261 Acc: 0.3292
Epoch
        47/99 train Loss: 1.8423 Acc: 0.3630 val Loss: 2.0165 Acc: 0.3292
        48/99 train Loss: 1.8397 Acc: 0.3618 val Loss: 2.0496 Acc: 0.3194
Epoch
Epoch
        49/99 train Loss: 1.8536 Acc: 0.3520 val Loss: 1.9921 Acc: 0.3194
Epoch
        50/99 train Loss: 1.8191 Acc: 0.3587 val Loss: 1.9847 Acc: 0.3071
        51/99 train Loss: 1.8025 Acc: 0.3735 val Loss: 1.9648 Acc: 0.3440
Epoch
Epoch
        52/99 train Loss: 1.8112 Acc: 0.3618 val Loss: 1.9202 Acc: 0.3440
        53/99 train Loss: 1.7894 Acc: 0.3747 val Loss: 1.9707 Acc: 0.3047
Epoch
Epoch
        54/99 train Loss: 1.7899 Acc: 0.3692 val Loss: 1.9677 Acc: 0.3170
Epoch
        55/99 train Loss: 1.7611 Acc: 0.3882 val Loss: 2.0132 Acc: 0.2924
Epoch
        56/99 train Loss: 1.7442 Acc: 0.3802 val Loss: 1.9954 Acc: 0.3219
        57/99 train Loss: 1.7533 Acc: 0.3857 val Loss: 1.9512 Acc: 0.3440
Epoch
        58/99 train Loss: 1.7367 Acc: 0.3839 val Loss: 1.9979 Acc: 0.3415
Epoch
Epoch
        59/99 train Loss: 1.7729 Acc: 0.3833 val Loss: 2.0424 Acc: 0.2948
        60/99 train Loss: 1.7186 Acc: 0.3974 val Loss: 1.9822 Acc: 0.3292
Epoch
Epoch
        61/99 train Loss: 1.6935 Acc: 0.4091 val Loss: 1.9992 Acc: 0.3219
Epoch
        62/99 train Loss: 1.6648 Acc: 0.4201 val Loss: 2.0447 Acc: 0.2998
Epoch
        63/99 train Loss: 1.6783 Acc: 0.4103 val Loss: 1.9980 Acc: 0.3440
Epoch
        64/99 train Loss: 1.6543 Acc: 0.4189 val Loss: 1.9306 Acc: 0.3489
        65/99 train Loss: 1.6723 Acc: 0.4220 val Loss: 1.9257 Acc: 0.3292
Epoch
Epoch
        66/99 train Loss: 1.6615 Acc: 0.4232 val Loss: 2.0143 Acc: 0.3342
        67/99 train Loss: 1.6245 Acc: 0.4195 val Loss: 1.9505 Acc: 0.3489
Epoch
        68/99 train Loss: 1.6570 Acc: 0.4183 val Loss: 1.9894 Acc: 0.3735
Epoch
Epoch
        69/99 train Loss: 1.6300 Acc: 0.4343 val Loss: 2.0996 Acc: 0.2727
        70/99 train Loss: 1.6670 Acc: 0.4330 val Loss: 2.0359 Acc: 0.3317
Epoch
Epoch
        71/99 train Loss: 1.5912 Acc: 0.4367 val Loss: 2.0555 Acc: 0.3096
        72/99 train Loss: 1.5804 Acc: 0.4441 val Loss: 1.9912 Acc: 0.3464
Epoch
        73/99 train Loss: 1.5858 Acc: 0.4275 val Loss: 1.8958 Acc: 0.3366
Epoch
Epoch
        74/99 train Loss: 1.5228 Acc: 0.4748 val Loss: 2.0023 Acc: 0.3440
```

```
Epoch
        75/99 train Loss: 1.6046 Acc: 0.4398 val Loss: 2.0372 Acc: 0.3366
Epoch
        76/99 train Loss: 1.5527 Acc: 0.4441 val Loss: 1.9117 Acc: 0.3686
Epoch
        77/99 train Loss: 1.5403 Acc: 0.4687 val Loss: 2.0097 Acc: 0.3268
        78/99 train Loss: 1.4848 Acc: 0.4699 val Loss: 1.9713 Acc: 0.3268
Epoch
Epoch
        79/99 train Loss: 1.5193 Acc: 0.4631 val Loss: 1.9608 Acc: 0.3514
Epoch
        80/99 train Loss: 1.4705 Acc: 0.4742 val Loss: 2.0629 Acc: 0.3145
        81/99 train Loss: 1.4878 Acc: 0.4889 val Loss: 2.0264 Acc: 0.3317
Epoch
Epoch
        82/99 train Loss: 1.4406 Acc: 0.4988 val Loss: 2.0041 Acc: 0.3661
Epoch
        83/99 train Loss: 1.4784 Acc: 0.4736 val Loss: 2.0696 Acc: 0.3317
Epoch
        84/99 train Loss: 1.4340 Acc: 0.5000 val Loss: 2.1148 Acc: 0.3587
Epoch
        85/99 train Loss: 1.4418 Acc: 0.4902 val Loss: 2.0229 Acc: 0.3391
        86/99 train Loss: 1.4381 Acc: 0.5117 val Loss: 2.0314 Acc: 0.3489
Epoch
Epoch
        87/99 train Loss: 1.4246 Acc: 0.4963 val Loss: 2.0209 Acc: 0.3243
Epoch
        88/99 train Loss: 1.4366 Acc: 0.5031 val Loss: 1.9970 Acc: 0.3489
        89/99 train Loss: 1.3886 Acc: 0.5061 val Loss: 2.0252 Acc: 0.3514
Epoch
Epoch
        90/99 train Loss: 1.3809 Acc: 0.5190 val Loss: 2.0219 Acc: 0.3661
Epoch 91/99 train Loss: 1.3497 Acc: 0.5055 val Loss: 2.0143 Acc: 0.3489
Epoch
       92/99 train Loss: 1.3821 Acc: 0.5197 val Loss: 2.1149 Acc: 0.3661
Epoch 93/99 train Loss: 1.3535 Acc: 0.5356 val Loss: 2.1138 Acc: 0.3489
        94/99 train Loss: 1.3092 Acc: 0.5301 val Loss: 2.0794 Acc: 0.3612
```

Training complete in 64m 12s

Best val Acc: 0.373464

Fold 4 test Loss: 1.9929 Acc: 0.3366

Epoch 0/99 train Loss: 2.5200 Acc: 0.1235 val Loss: 2.3802 Acc: 0.1671 Epoch 1/99 train Loss: 2.3199 Acc: 0.1695 val Loss: 2.2270 Acc: 0.1892 Epoch 2/99 train Loss: 2.2408 Acc: 0.2015 val Loss: 2.2546 Acc: 0.1966 Epoch 3/99 train Loss: 2.1815 Acc: 0.2377 val Loss: 2.2222 Acc: 0.2088 Epoch 4/99 train Loss: 2.1590 Acc: 0.2279 val Loss: 2.1669 Acc: 0.2113 Epoch 5/99 train Loss: 2.1236 Acc: 0.2604 val Loss: 2.1589 Acc: 0.2285 Epoch 6/99 train Loss: 2.1143 Acc: 0.2457 val Loss: 2.1451 Acc: 0.2482 Epoch 7/99 train Loss: 2.1116 Acc: 0.2684 val Loss: 2.2079 Acc: 0.2334 Epoch 8/99 train Loss: 2.0813 Acc: 0.2899 val Loss: 2.1284 Acc: 0.2482 9/99 train Loss: 2.0747 Acc: 0.2795 val Loss: 2.1174 Acc: 0.2826 Epoch Epoch 10/99 train Loss: 2.0462 Acc: 0.2635 val Loss: 2.0817 Acc: 0.2801 11/99 train Loss: 1.9969 Acc: 0.2955 val Loss: 2.1151 Acc: 0.2629 Epoch 12/99 train Loss: 2.0020 Acc: 0.2844 val Loss: 2.0630 Acc: 0.2826 Epoch Epoch 13/99 train Loss: 1.9892 Acc: 0.2942 val Loss: 2.0328 Acc: 0.2678

```
Epoch
        14/99 train Loss: 1.9620 Acc: 0.3237 val Loss: 2.0579 Acc: 0.2826
Epoch
        15/99 train Loss: 1.9666 Acc: 0.3262 val Loss: 2.0686 Acc: 0.2924
Epoch
        16/99 train Loss: 1.9575 Acc: 0.3262 val Loss: 2.0316 Acc: 0.2998
Epoch
        17/99 train Loss: 1.9233 Acc: 0.3335 val Loss: 2.0490 Acc: 0.2973
        18/99 train Loss: 1.9448 Acc: 0.3280 val Loss: 1.9978 Acc: 0.3243
Epoch
        19/99 train Loss: 1.9645 Acc: 0.3145 val Loss: 1.9808 Acc: 0.3219
Epoch
        20/99 train Loss: 1.9347 Acc: 0.3305 val Loss: 2.0829 Acc: 0.2899
Epoch
Epoch
        21/99 train Loss: 1.9043 Acc: 0.3323 val Loss: 2.0469 Acc: 0.3096
Epoch
        22/99 train Loss: 1.9072 Acc: 0.3335 val Loss: 2.0337 Acc: 0.2899
Epoch
        23/99 train Loss: 1.9120 Acc: 0.3299 val Loss: 1.9949 Acc: 0.3170
Epoch
        24/99 train Loss: 1.9123 Acc: 0.3372 val Loss: 2.0050 Acc: 0.2948
        25/99 train Loss: 1.8901 Acc: 0.3520 val Loss: 1.9914 Acc: 0.3120
Epoch
Epoch
        26/99 train Loss: 1.8620 Acc: 0.3464 val Loss: 1.9527 Acc: 0.3366
Epoch
        27/99 train Loss: 1.8629 Acc: 0.3397 val Loss: 1.9879 Acc: 0.3120
        28/99 train Loss: 1.8737 Acc: 0.3569 val Loss: 1.9949 Acc: 0.3145
Epoch
Epoch
        29/99 train Loss: 1.8283 Acc: 0.3581 val Loss: 1.9653 Acc: 0.3071
        30/99 train Loss: 1.8431 Acc: 0.3636 val Loss: 2.0243 Acc: 0.2850
Epoch
Epoch
        31/99 train Loss: 1.8203 Acc: 0.3569 val Loss: 1.9591 Acc: 0.3587
Epoch
        32/99 train Loss: 1.8054 Acc: 0.3753 val Loss: 1.9666 Acc: 0.3219
Epoch
        33/99 train Loss: 1.8204 Acc: 0.3679 val Loss: 1.9336 Acc: 0.3268
        34/99 train Loss: 1.7895 Acc: 0.3802 val Loss: 1.9486 Acc: 0.3489
Epoch
        35/99 train Loss: 1.7856 Acc: 0.3735 val Loss: 1.9208 Acc: 0.3415
Epoch
Epoch
        36/99 train Loss: 1.7918 Acc: 0.3741 val Loss: 1.9369 Acc: 0.3366
        37/99 train Loss: 1.8009 Acc: 0.3882 val Loss: 1.9100 Acc: 0.3440
Epoch
Epoch
        38/99 train Loss: 1.8078 Acc: 0.3710 val Loss: 1.9465 Acc: 0.3292
        39/99 train Loss: 1.7465 Acc: 0.3814 val Loss: 1.9236 Acc: 0.3612
Epoch
Epoch
        40/99 train Loss: 1.7636 Acc: 0.3894 val Loss: 1.8965 Acc: 0.3317
Epoch
        41/99 train Loss: 1.7712 Acc: 0.3710 val Loss: 1.9365 Acc: 0.3243
        42/99 train Loss: 1.7565 Acc: 0.3814 val Loss: 1.9737 Acc: 0.3268
Epoch
Epoch
        43/99 train Loss: 1.7600 Acc: 0.3778 val Loss: 1.9919 Acc: 0.3489
        44/99 train Loss: 1.7243 Acc: 0.3993 val Loss: 1.9022 Acc: 0.3366
Epoch
        45/99 train Loss: 1.7216 Acc: 0.3943 val Loss: 1.8542 Acc: 0.3514
Epoch
Epoch
        46/99 train Loss: 1.6567 Acc: 0.4140 val Loss: 1.9140 Acc: 0.3538
        47/99 train Loss: 1.6842 Acc: 0.4029 val Loss: 1.9147 Acc: 0.3489
Epoch
Epoch
        48/99 train Loss: 1.6787 Acc: 0.4048 val Loss: 1.8961 Acc: 0.3391
        49/99 train Loss: 1.6877 Acc: 0.4072 val Loss: 1.8998 Acc: 0.3686
Epoch
        50/99 train Loss: 1.6486 Acc: 0.4244 val Loss: 1.9075 Acc: 0.3735
Epoch
Epoch
        51/99 train Loss: 1.6253 Acc: 0.4195 val Loss: 1.9230 Acc: 0.3391
```

**Epoch** 52/99 train Loss: 1.6420 Acc: 0.4208 val Loss: 1.8657 Acc: 0.3587 53/99 train Loss: 1.6102 Acc: 0.4355 val Loss: 1.9311 Acc: 0.3366 Epoch 54/99 train Loss: 1.6281 Acc: 0.4312 val Loss: 1.8726 Acc: 0.3415 **Epoch** Epoch 55/99 train Loss: 1.6190 Acc: 0.4232 val Loss: 1.9937 Acc: 0.3587 56/99 train Loss: 1.5770 Acc: 0.4564 val Loss: 1.9087 Acc: 0.3833 Epoch 57/99 train Loss: 1.5878 Acc: 0.4472 val Loss: 1.8661 Acc: 0.3784 **Epoch** 58/99 train Loss: 1.6166 Acc: 0.4392 val Loss: 1.9243 Acc: 0.3612 Epoch 59/99 train Loss: 1.6034 Acc: 0.4318 val Loss: 1.8996 Acc: 0.3784 **Epoch** Epoch 60/99 train Loss: 1.5707 Acc: 0.4429 val Loss: 1.9235 Acc: 0.3538 61/99 train Loss: 1.6045 Acc: 0.4349 val Loss: 1.9138 Acc: 0.3170 Epoch 62/99 train Loss: 1.5951 Acc: 0.4429 val Loss: 1.8804 Acc: 0.3440 Epoch 63/99 train Loss: 1.5878 Acc: 0.4392 val Loss: 2.0646 Acc: 0.3538 Epoch 64/99 train Loss: 1.5885 Acc: 0.4330 val Loss: 1.9379 Acc: 0.3391 Epoch Epoch 65/99 train Loss: 1.5584 Acc: 0.4552 val Loss: 1.9475 Acc: 0.3342 66/99 train Loss: 1.5567 Acc: 0.4435 val Loss: 1.9306 Acc: 0.3292 Epoch

Training complete in 45m 18s

Best val Acc: 0.383292

Fold 5 test Loss: 1.8174 Acc: 0.3504 average accuracy rate: 0.332+/-0.012