## Task 1

Step 9980 Loss 0.91967475 Correct 51 out of 100 Step 9981 Loss 0.89893705 Correct 48 out of 100 Step 9982 Loss 0.94406337 Correct 50 out of 100 Step 9983 Loss 0.876957 Correct 57 out of 100 Step 9984 Loss 0.87101793 Correct 52 out of 100 Step 9985 Loss 0.8780482 Correct 57 out of 100 Step 9986 Loss 0.9152413 Correct 51 out of 100 Step 9987 Loss 0.8947532 Correct 56 out of 100 Step 9988 Loss 0.91460145 Correct 51 out of 100 Step 9989 Loss 0.93708396 Correct 50 out of 100 Step 9990 Loss 0.92268854 Correct 54 out of 100 Step 9991 Loss 0.8329005 Correct 56 out of 100 Step 9992 Loss 1.041201 Correct 53 out of 100 Step 9993 Loss 0.8680583 Correct 55 out of 100 Step 9994 Loss 0.96103144 Correct 51 out of 100 Step 9995 Loss 0.9278388 Correct 53 out of 100 Step 9996 Loss 0.9495953 Correct 58 out of 100 Step 9997 Loss 0.9139567 Correct 56 out of 100 Step 9998 Loss 0.9686182 Correct 53 out of 100 Step 9999 Loss 0.95999277 Correct 55 out of 100

Loss for 3000 test samples is 0.9098752260208129 and correct is 1052 out of 3000

## Task 2

Step 9980 Loss 0.16235965 Correct 95 out of 100 Step 9981 Loss 0.24207865 Correct 92 out of 100 Step 9982 Loss 0.22439152 Correct 94 out of 100 Step 9983 Loss 0.18574226 Correct 93 out of 100 Step 9984 Loss 0.1874513 Correct 92 out of 100 Step 9985 Loss 0.19129068 Correct 96 out of 100 Step 9986 Loss 0.10907482 Correct 98 out of 100 Step 9987 Loss 0.21823426 Correct 89 out of 100 Step 9988 Loss 0.2196777 Correct 94 out of 100 Step 9989 Loss 0.24689503 Correct 92 out of 100 Step 9990 Loss 0.21301025 Correct 91 out of 100 Step 9991 Loss 0.10895023 Correct 95 out of 100 Step 9992 Loss 0.18907109 Correct 93 out of 100 Step 9993 Loss 0.21706313 Correct 93 out of 100 Step 9994 Loss 0.2587911 Correct 92 out of 100 Step 9995 Loss 0.34157312 Correct 92 out of 100 Step 9996 Loss 0.26254222 Correct 89 out of 100 Step 9997 Loss 0.29459012 Correct 86 out of 100 Step 9998 Loss 0.18854924 Correct 94 out of 100 Step 9999 Loss 0.13593754 Correct 95 out of 100 Loss for 3000 test samples is 0.24942345370848973 and correct is 51438 out of 3000

## Task 3

Step 9980 Loss 0.023762612 Correct 100 out of 100 Step 9981 Loss 0.023116266 Correct 100 out of 100 Step 9982 Loss 0.05768018 Correct 98 out of 100 Step 9983 Loss 0.032992497 Correct 99 out of 100 Step 9984 Loss 0.043896265 Correct 99 out of 100 Step 9985 Loss 0.042049356 Correct 99 out of 100 Step 9986 Loss 0.025987403 Correct 100 out of 100 Step 9987 Loss 0.023779936 Correct 100 out of 100 Step 9988 Loss 0.019340321 Correct 100 out of 100 Step 9989 Loss 0.025574097 Correct 100 out of 100 Step 9990 Loss 0.04434329 Correct 99 out of 100 Step 9991 Loss 0.030530991 Correct 100 out of 100 Step 9992 Loss 0.03304195 Correct 99 out of 100 Step 9993 Loss 0.08745678 Correct 98 out of 100 Step 9994 Loss 0.034800567 Correct 99 out of 100 Step 9995 Loss 0.02374195 Correct 100 out of 100 Step 9996 Loss 0.01547687 Correct 100 out of 100 Step 9997 Loss 0.025520744 Correct 100 out of 100 Step 9998 Loss 0.040573426 Correct 100 out of 100 Step 9999 Loss 0.30122748 Correct 99 out of 100 Loss for 3000 test samples is 0.2785673643151919 and correct is 1051 out of 3000

## Task 4

Step 9980 Loss 0.25300217 Correct 95 out of 100 Step 9981 Loss 0.22580227 Correct 94 out of 100 Step 9982 Loss 0.17206241 Correct 95 out of 100 Step 9983 Loss 0.18110158 Correct 96 out of 100 Step 9984 Loss 0.245092 Correct 92 out of 100 Step 9985 Loss 0.3550133 Correct 88 out of 100 Step 9986 Loss 0.28545317 Correct 90 out of 100 Step 9987 Loss 0.31686914 Correct 88 out of 100 Step 9988 Loss 0.23851348 Correct 92 out of 100 Step 9989 Loss 0.33427656 Correct 86 out of 100 Step 9990 Loss 0.2045809 Correct 92 out of 100 Step 9991 Loss 0.1887979 Correct 94 out of 100 Step 9992 Loss 0.17395973 Correct 93 out of 100 Step 9993 Loss 0.15135306 Correct 94 out of 100 Step 9994 Loss 0.24337734 Correct 92 out of 100 Step 9995 Loss 0.2942498 Correct 88 out of 100

Step 9996 Loss 0.23800308 Correct 92 out of 100

Step 9997 Loss 0.15014204 Correct 94 out of 100

Step 9998 Loss 0.19915882 Correct 93 out of 100

Step 9999 Loss 0.21041228 Correct 92 out of 100

Loss for 3000 test samples is 0.2356203372279803 and correct is 51681 out of 3000