Using device: cuda Total positive sample size 30227 Total negative sample size 30227 size of patient_ids_train 4000 size of patient_ids_validation 1000 momentum: 0.8172293544621156 lr: 0.0006940798588247255 weight decay 1.6969832427265707e-06 Epoch 0, Iteration 0, Loss: 0.6361968517303467, Number of Images per iteration: 4 Epoch 0, Iteration 100, Loss: 0.12040107697248459, Number of Images per iteration: 4 Epoch 0, Iteration 200, Loss: 0.25231286883354187, Number of Images per iteration: 4 Epoch 0, Iteration 300, Loss: 0.052747730165719986, Number of Images per iteration: Epoch 0, Iteration 400, Loss: 0.1717917025089264, Number of Images per iteration: 4 Epoch 0, Iteration 500, Loss: 0.13973286747932434, Number of Images per iteration: 4 Epoch 0, Iteration 600, Loss: 0.13798221945762634, Number of Images per iteration: 4 Epoch 0, Iteration 700, Loss: 0.2796468138694763, Number of Images per iteration: 4 Epoch 0, Iteration 800, Loss: 0.26423874497413635, Number of Images per iteration: 4 Epoch 0, Iteration 900, Loss: 0.15831133723258972, Number of Images per iteration: 4 loading annotations into memory... Done (t=0.00s) creating index... index created! Loading and preparing results... DONE (t=0.16s) creating index... index created! Running per image evaluation... Evaluate annotation type *bbox* DONE (t=1.02s). Accumulating evaluation results... DONE (t=0.20s). Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.022 Average Precision (AP) @[IoU=0.50 | area = all | maxDets = 100 | = 0.089 Average Precision (AP) @[loU=0.75 | area = all | maxDets=100] = 0.003 Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000 Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000 Average Precision (AP) @[loU=0.50:0.95 | area= large | maxDets=100] = 0.023 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.043 Average Recall (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.168 Average Recall Average Recall (AR) @[loU=0.50:0.95 l area= all l maxDets=100] = 0.235 (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000 Average Recall (AR) @[loU=0.50:0.95 | area=medium | maxDets=100] = 0.000 Average Recall (AR) @[loU=0.50:0.95 | area= large | maxDets=100] = 0.237 Average Recall

Epoch 1, Iteration 0, Loss: 0.047624703496694565, Number of Images per iteration: 4

```
Epoch 1, Iteration 100, Loss: 0.19543014466762543, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.20692132413387299, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.10611330717802048, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.16399221122264862, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.12396860867738724, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.14054545760154724, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.08856400847434998, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.053813181817531586, Number of Images per iteration:
Epoch 1, Iteration 900, Loss: 0.13841426372528076, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.18s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.99s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.036
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.137
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.012
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.036
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.059
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.198
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.274
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.277
Average Recall
Epoch 2, Iteration 0, Loss: 0.09154412150382996, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.1157616600394249, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.11311861127614975, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.2029125690460205, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.08618197590112686, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.14375270903110504, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.13101577758789062, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.07143509387969971, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.19474057853221893, Number of Images per iteration: 4
Epoch 2, Iteration 900, Loss: 0.1615903377532959, Number of Images per iteration: 4
loading annotations into memory...
```

```
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.18s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.97s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.043
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.160
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.013
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.044
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.064
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.217
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.281
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.284
Average Recall
Epoch 3, Iteration 0, Loss: 0.3088405132293701, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.2230197638273239, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.12529034912586212, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.13031600415706635, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.10974115133285522, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.0909763053059578, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.009679937735199928, Number of Images per iteration:
Epoch 3, Iteration 700, Loss: 0.1359182894229889, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.16933274269104004, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.16667480766773224, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.77s).
```

```
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.052
Average Precision (AP) @[ IoU=0.50
                                     | area = all | maxDets = 100 | = 0.185
Average Precision (AP) @[ loU=0.75
                                     | area = all | maxDets = 100 | = 0.014
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.052
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.072
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.234
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.282
                 (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.285
Average Recall
Epoch 4, Iteration 0, Loss: 0.06630333513021469, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.11562839895486832, Number of Images per iteration: 4
Epoch 4, Iteration 200, Loss: 0.10330446809530258, Number of Images per iteration: 4
Epoch 4, Iteration 300, Loss: 0.19215042889118195, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.11431862413883209, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.17888149619102478, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.14798444509506226, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.20474644005298615, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.20024219155311584, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.12648335099220276, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.02s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.051
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 | = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.052
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.075
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.236
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.299
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.301
Epoch 5, Iteration 0, Loss: 0.12649500370025635, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.1259455531835556, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.17179572582244873, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.2131902128458023, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.2581738233566284, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.07587507367134094, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.17846593260765076, Number of Images per iteration: 4
Epoch 5, Iteration 700, Loss: 0.07689134031534195, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.05247495323419571, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.11540285497903824, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.052
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.193
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.053
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.079
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.243
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.291
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
Epoch 6, Iteration 0, Loss: 0.10973823815584183, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.1992296725511551, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.011861667037010193, Number of Images per iteration:
Epoch 6, Iteration 300, Loss: 0.10524150729179382, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.0649854987859726, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.01672619953751564, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.010687458328902721, Number of Images per iteration:
```

Epoch 6, Iteration 700, Loss: 0.24757178127765656, Number of Images per iteration: 4 Epoch 6, Iteration 800, Loss: 0.14495849609375, Number of Images per iteration: 4 Epoch 6, Iteration 900, Loss: 0.13980962336063385, Number of Images per iteration: 4 loading annotations into memory... Done (t=0.00s) creating index... index created! Loading and preparing results... DONE (t=0.02s) creating index... index created! Running per image evaluation... Evaluate annotation type *bbox* DONE (t=0.72s). Accumulating evaluation results... DONE (t=0.16s). Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.053 Average Precision (AP) @[IoU=0.50 | larea= all | maxDets=100] = 0.194 Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000 Average Precision (AP) @[loU=0.50:0.95 | area=medium | maxDets=100] = 0.000 Average Precision (AP) @[loU=0.50:0.95 | area= large | maxDets=100] = 0.053 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.081 Average Recall (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.243 Average Recall (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.287 Average Recall (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000 Average Recall Average Recall (AR) @[loU=0.50:0.95 | area=medium | maxDets=100] = 0.000 Average Recall (AR) @[loU=0.50:0.95 | area= large | maxDets=100] = 0.290 Epoch 7, Iteration 0, Loss: 0.19555437564849854, Number of Images per iteration: 4 Epoch 7, Iteration 100, Loss: 0.24945716559886932, Number of Images per iteration: 4 Epoch 7, Iteration 200, Loss: 0.12025377154350281, Number of Images per iteration: 4 Epoch 7, Iteration 300, Loss: 0.19454555213451385, Number of Images per iteration: 4 Epoch 7, Iteration 400, Loss: 0.05927346646785736, Number of Images per iteration: 4 Epoch 7, Iteration 500, Loss: 0.07446036487817764, Number of Images per iteration: 4 Epoch 7, Iteration 600, Loss: 0.10693800449371338, Number of Images per iteration: 4 Epoch 7, Iteration 700, Loss: 0.07038294523954391, Number of Images per iteration: 4 Epoch 7, Iteration 800, Loss: 0.1466481238603592, Number of Images per iteration: 4 Epoch 7, Iteration 900, Loss: 0.2717568874359131, Number of Images per iteration: 4 loading annotations into memory... Done (t=0.00s) creating index... index created! Loading and preparing results... DONE (t=0.02s) creating index...

```
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.053
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.195
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.054
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.080
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.240
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.288
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.291
Epoch 8, Iteration 0, Loss: 0.091826893389225, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.06026213616132736, Number of Images per iteration: 4
Epoch 8, Iteration 200, Loss: 0.21052537858486176, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.20329990983009338, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.10796935856342316, Number of Images per iteration: 4
Epoch 8, Iteration 500, Loss: 0.017701931297779083, Number of Images per iteration:
Epoch 8, Iteration 600, Loss: 0.11539284884929657, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.17357689142227173, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.3202883303165436, Number of Images per iteration: 4
Epoch 8, Iteration 900, Loss: 0.1334778219461441, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.054
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.197
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
```

index created!

```
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.054
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.082
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.241
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.290
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.292
Epoch 9, Iteration 0, Loss: 0.1046316921710968, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.23041696846485138, Number of Images per iteration: 4
Epoch 9, Iteration 200, Loss: 0.19279327988624573, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.12446854263544083, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.3109191656112671, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.09788965433835983, Number of Images per iteration: 4
Epoch 9, Iteration 600, Loss: 0.1507720798254013, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.12164773046970367, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.08933842927217484, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.10202384740114212, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.78s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.054
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.198
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.001
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.054
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.081
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.245
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.294
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.297
Epoch 10, Iteration 0, Loss: 0.1389790028333664, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.2559167146682739, Number of Images per iteration: 4
Epoch 10, Iteration 200, Loss: 0.22141113877296448, Number of Images per iteration:
```

Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.001

```
Epoch 10, Iteration 300, Loss: 0.062296949326992035, Number of Images per
iteration: 4
Epoch 10, Iteration 400, Loss: 0.08710616827011108, Number of Images per iteration:
Epoch 10, Iteration 500, Loss: 0.09859972447156906, Number of Images per iteration:
Epoch 10, Iteration 600, Loss: 0.1781010627746582, Number of Images per iteration: 4
Epoch 10, Iteration 700, Loss: 0.21151553094387054, Number of Images per iteration:
Epoch 10, Iteration 800, Loss: 0.13498875498771667, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.20783910155296326, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.18s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.77s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.054
Average Precision (AP) @[IoU=0.50 | larea= all | maxDets=100] = 0.198
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.054
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.080
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.245
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.293
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.295
Epoch 11, Iteration 0, Loss: 0.15594692528247833, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.08693235367536545, Number of Images per iteration:
Epoch 11, Iteration 200, Loss: 0.22408638894557953, Number of Images per iteration:
Epoch 11, Iteration 300, Loss: 0.16335348784923553, Number of Images per iteration:
```

```
Epoch 11, Iteration 400, Loss: 0.20777904987335205, Number of Images per iteration:
Epoch 11, Iteration 500, Loss: 0.1970769762992859, Number of Images per iteration: 4
Epoch 11, Iteration 600, Loss: 0.10716056823730469, Number of Images per iteration:
Epoch 11, Iteration 700, Loss: 0.19967500865459442, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.03859281912446022, Number of Images per iteration:
Epoch 11, Iteration 900, Loss: 0.30483973026275635, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.054
Average Precision (AP) @[ loU=0.50 | l area= all l maxDets=100 ] = 0.197
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.011
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.054
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.080
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.245
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.293
Average Recall
                 (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.295
Average Recall
Epoch 12, Iteration 0, Loss: 0.1384696662425995, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.12868136167526245, Number of Images per iteration:
Epoch 12, Iteration 200, Loss: 0.05168741196393967, Number of Images per iteration:
Epoch 12, Iteration 300, Loss: 0.022933917120099068, Number of Images per
iteration: 4
Epoch 12, Iteration 400, Loss: 0.10580965131521225, Number of Images per iteration:
Epoch 12, Iteration 500, Loss: 0.1433955579996109, Number of Images per iteration: 4
```

```
Epoch 12, Iteration 600, Loss: 0.24476437270641327, Number of Images per iteration:
Epoch 12, Iteration 700, Loss: 0.01421013381332159, Number of Images per iteration:
Epoch 12, Iteration 800, Loss: 0.17162325978279114, Number of Images per iteration:
Epoch 12, Iteration 900, Loss: 0.18243861198425293, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.054
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.198
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.010
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.054
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.081
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.245
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.291
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
Average Recall
Epoch 13, Iteration 0, Loss: 0.2626020610332489, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.22229120135307312, Number of Images per iteration:
Epoch 13, Iteration 200, Loss: 0.23606805503368378, Number of Images per iteration:
Epoch 13, Iteration 300, Loss: 0.28049132227897644, Number of Images per iteration:
Epoch 13, Iteration 400, Loss: 0.252497136592865, Number of Images per iteration: 4
Epoch 13, Iteration 500, Loss: 0.11333458125591278, Number of Images per iteration:
4
Epoch 13, Iteration 600, Loss: 0.2587713301181793, Number of Images per iteration: 4
Epoch 13, Iteration 700, Loss: 0.3426486849784851, Number of Images per iteration: 4
Epoch 13, Iteration 800, Loss: 0.27587997913360596, Number of Images per iteration:
```

```
Epoch 13, Iteration 900, Loss: 0.19378702342510223, Number of Images per iteration:
loading annotations into memory...
Done (t=0.01s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.77s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.054
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.198
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.054
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.081
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.245
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.292
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
Epoch 14, Iteration 0, Loss: 0.2911536395549774, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.08005762100219727, Number of Images per iteration:
Epoch 14, Iteration 200, Loss: 0.06779593974351883, Number of Images per iteration:
Epoch 14, Iteration 300, Loss: 0.30537429451942444, Number of Images per iteration:
Epoch 14, Iteration 400, Loss: 0.10681620985269547, Number of Images per iteration:
Epoch 14, Iteration 500, Loss: 0.3220711946487427, Number of Images per iteration: 4
Epoch 14, Iteration 600, Loss: 0.18279533088207245, Number of Images per iteration:
Epoch 14, Iteration 700, Loss: 0.27996590733528137, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.18886351585388184, Number of Images per iteration:
Epoch 14, Iteration 900, Loss: 0.13592059910297394, Number of Images per iteration:
```

```
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.77s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.054
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.198
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.001
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.055
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.081
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.245
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.292
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
Average Recall
momentum: 0.9727104822303398 lr: 0.00012910861426279702 weight_decay
0.00020823008745504728
Epoch 0, Iteration 0, Loss: 0.843110203742981, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.06451087445020676, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.18143689632415771, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.12118764221668243, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.03559093177318573, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.12373896688222885, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.14148518443107605, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.06645457446575165, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.050506606698036194, Number of Images per iteration:
Epoch 0, Iteration 900, Loss: 0.2851918339729309, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.15s)
creating index...
index created!
```

```
Evaluate annotation type *bbox*
DONE (t=1.07s).
Accumulating evaluation results...
DONE (t=0.22s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 | = 0.025
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.097
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets=100 ] = 0.002
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.025
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.047
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.179
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.252
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.255
Epoch 1, Iteration 0, Loss: 0.14315827190876007, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.2263793796300888, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.11103049665689468, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.021068524569272995, Number of Images per iteration:
Epoch 1, Iteration 400, Loss: 0.14009924232959747, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.08689503371715546, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.15263204276561737, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.07527683675289154, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.06312641501426697, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.13995550572872162, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.88s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.041
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.153
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.013
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
```

Running per image evaluation...

```
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.041
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.061
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.209
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.270
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.272
Average Recall
Epoch 2, Iteration 0, Loss: 0.17693014442920685, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.19695989787578583, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.17691311240196228, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.14563065767288208, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.14485640823841095, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.12108457833528519, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.11398200690746307, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.30425870418548584, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.2608419358730316, Number of Images per iteration: 4
Epoch 2, Iteration 900, Loss: 0.15348057448863983, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.90s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.048
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.184
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.009
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.049
                  (AR) @[loU=0.50:0.95 | area = all | maxDets = 1] = 0.072
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.233
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.287
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.290
Epoch 3, Iteration 0, Loss: 0.3298476040363312, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.11087063699960709, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.20764341950416565, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.19708257913589478, Number of Images per iteration: 4
```

```
Epoch 3, Iteration 400, Loss: 0.014937064610421658, Number of Images per iteration:
Epoch 3, Iteration 500, Loss: 0.2311345487833023, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.10130669921636581, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.15791428089141846, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.15833868086338043, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.15551644563674927, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.80s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.057
Average Precision (AP) @[ loU=0.75
                                      | area = all | maxDets = 100 | = 0.015
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.057
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.078
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.238
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.293
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.050
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.296
Epoch 4, Iteration 0, Loss: 0.07374969124794006, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.22296057641506195, Number of Images per iteration: 4
Epoch 4, Iteration 200, Loss: 0.11080876737833023, Number of Images per iteration: 4
Epoch 4, Iteration 300, Loss: 0.3254374563694, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.09805134683847427, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.05662321671843529, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.16137267649173737, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.3821353614330292, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.2215525358915329, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.06979977339506149, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
```

```
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.83s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.061
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.221
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.016
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.002
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.078
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.245
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.295
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.050
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.297
Average Recall
Epoch 5, Iteration 0, Loss: 0.3229428827762604, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.24580954015254974, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.16305649280548096, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.22366277873516083, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.2809353470802307, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.05842382460832596, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.23142234981060028, Number of Images per iteration: 4
Epoch 5, Iteration 700, Loss: 0.29631251096725464, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.1288996934890747, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.18649466335773468, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.18s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.74s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.061
```

Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.225

```
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.015
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.003
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.061
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.079
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.249
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.297
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.300
Epoch 6, Iteration 0, Loss: 0.16323143243789673, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.17525877058506012, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.20579932630062103, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.04905524477362633, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.20491290092468262, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.047990452498197556, Number of Images per iteration:
Epoch 6, Iteration 600, Loss: 0.13344621658325195, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.20235031843185425, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.09318927675485611, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.22481104731559753, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.93s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.061
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.225
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.015
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.003
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.062
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.081
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.251
Average Recall
                  (AR) @[loU=0.50:0.95 larea= all lmaxDets=100] = 0.300
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.302
Average Recall
```

```
Epoch 7, Iteration 0, Loss: 0.23322470486164093, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.22950437664985657, Number of Images per iteration: 4
Epoch 7, Iteration 200, Loss: 0.334322988986969, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.19037498533725739, Number of Images per iteration: 4
Epoch 7, Iteration 400, Loss: 0.246428444981575, Number of Images per iteration: 4
Epoch 7, Iteration 500, Loss: 0.06020328402519226, Number of Images per iteration: 4
Epoch 7, Iteration 600, Loss: 0.04583233594894409, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.08235747367143631, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.3896338939666748, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.12296025454998016, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.77s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.061
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.224
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.015
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.081
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.254
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.299
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.301
Average Recall
Epoch 8, Iteration 0, Loss: 0.020494509488344193, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.013429539278149605, Number of Images per iteration:
Epoch 8, Iteration 200, Loss: 0.07617522776126862, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.10326345264911652, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.012051740661263466, Number of Images per iteration:
Epoch 8, Iteration 500, Loss: 0.1181616261601448, Number of Images per iteration: 4
Epoch 8, Iteration 600, Loss: 0.2964644134044647, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.1348111778497696, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.13027235865592957, Number of Images per iteration: 4
```

```
Epoch 8, Iteration 900, Loss: 0.06369064748287201, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.063
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.016
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.004
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.064
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.082
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.256
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.302
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.304
Epoch 9, Iteration 0, Loss: 0.10112065821886063, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.14608976244926453, Number of Images per iteration: 4
Epoch 9, Iteration 200, Loss: 0.12398096919059753, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.21153739094734192, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.1653846651315689, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.09200630336999893, Number of Images per iteration: 4
Epoch 9, Iteration 600, Loss: 0.1496594101190567, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.11967353522777557, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.10690579563379288, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.1905292570590973, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
```

```
DONE (t=0.77s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.064
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.227
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.017
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.004
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.064
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.084
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.257
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.304
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.306
Average Recall
Epoch 10, Iteration 0, Loss: 0.1256978064775467, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.16712526977062225, Number of Images per iteration:
Epoch 10, Iteration 200, Loss: 0.10479170083999634, Number of Images per iteration:
Epoch 10, Iteration 300, Loss: 0.3399295210838318, Number of Images per iteration: 4
Epoch 10, Iteration 400, Loss: 0.14215703308582306, Number of Images per iteration:
Epoch 10, Iteration 500, Loss: 0.06517074257135391, Number of Images per iteration:
Epoch 10, Iteration 600, Loss: 0.28118014335632324, Number of Images per iteration:
Epoch 10, Iteration 700, Loss: 0.2603910565376282, Number of Images per iteration: 4
Epoch 10, Iteration 800, Loss: 0.196334987879944, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.10722856968641281, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.064
```

```
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets=100 | = 0.228
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.017
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.065
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.085
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.257
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.302
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.305
Epoch 11, Iteration 0, Loss: 0.21297448873519897, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.2551388442516327, Number of Images per iteration: 4
Epoch 11, Iteration 200, Loss: 0.2621701657772064, Number of Images per iteration: 4
Epoch 11, Iteration 300, Loss: 0.1015319749712944, Number of Images per iteration: 4
Epoch 11, Iteration 400, Loss: 0.3351838290691376, Number of Images per iteration: 4
Epoch 11, Iteration 500, Loss: 0.22855313122272491, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.055230263620615005, Number of Images per iteration:
Epoch 11, Iteration 700, Loss: 0.14386969804763794, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.08458636701107025, Number of Images per iteration:
Epoch 11, Iteration 900, Loss: 0.2955865263938904, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.064
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.229
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.017
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.065
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.085
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.257
Average Recall
```

```
(AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.301
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.303
Epoch 12, Iteration 0, Loss: 0.22004880011081696, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.223689004778862, Number of Images per iteration: 4
Epoch 12, Iteration 200, Loss: 0.014867324382066727, Number of Images per
iteration: 4
Epoch 12, Iteration 300, Loss: 0.264768123626709, Number of Images per iteration: 4
Epoch 12, Iteration 400, Loss: 0.031272850930690765, Number of Images per
iteration: 4
Epoch 12, Iteration 500, Loss: 0.21266670525074005, Number of Images per iteration:
Epoch 12, Iteration 600, Loss: 0.1437729150056839, Number of Images per iteration: 4
Epoch 12, Iteration 700, Loss: 0.2012261599302292, Number of Images per iteration: 4
Epoch 12, Iteration 800, Loss: 0.10051555186510086, Number of Images per iteration:
Epoch 12, Iteration 900, Loss: 0.1744266152381897, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.064
Average Precision (AP) @[ loU=0.50
                                       I area= all I maxDets=100 ] = 0.229
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.017
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.065
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.085
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.257
                  (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.301
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.303
Epoch 13, Iteration 0, Loss: 0.1773679554462433, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.12049796432256699, Number of Images per iteration:
4
```

```
Epoch 13, Iteration 200, Loss: 0.1669565588235855, Number of Images per iteration: 4
Epoch 13, Iteration 300, Loss: 0.025884831324219704, Number of Images per
iteration: 4
Epoch 13, Iteration 400, Loss: 0.08906099200248718, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.11877047270536423, Number of Images per iteration:
Epoch 13, Iteration 600, Loss: 0.08954011648893356, Number of Images per iteration:
Epoch 13, Iteration 700, Loss: 0.07995268702507019, Number of Images per iteration:
Epoch 13, Iteration 800, Loss: 0.09010832011699677, Number of Images per iteration:
Epoch 13, Iteration 900, Loss: 0.13042929768562317, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.064
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.228
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.017
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.065
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.085
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.257
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.301
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.303
Average Recall
Epoch 14, Iteration 0, Loss: 0.10662471503019333, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.17260463535785675, Number of Images per iteration:
Epoch 14, Iteration 200, Loss: 0.04887683317065239, Number of Images per iteration:
Epoch 14, Iteration 300, Loss: 0.10985417664051056, Number of Images per iteration:
```

```
Epoch 14, Iteration 400, Loss: 0.21236348152160645, Number of Images per iteration:
Epoch 14, Iteration 500, Loss: 0.10014348477125168, Number of Images per iteration:
Epoch 14, Iteration 600, Loss: 0.1321871429681778, Number of Images per iteration: 4
Epoch 14, Iteration 700, Loss: 0.13893701136112213, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.06276217848062515, Number of Images per iteration:
Epoch 14, Iteration 900, Loss: 0.07151423394680023, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.064
Average Precision (AP) @[IoU=0.50 | larea= all | maxDets=100] = 0.229
Average Precision (AP) @[loU=0.75 | larea= all | maxDets=100] = 0.017
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.065
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.085
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.257
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.301
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.303
Average Recall
momentum: 0.8834078617781075 lr: 2.989168387392005e-05 weight_decay
0.0003416762547142147
Epoch 0, Iteration 0, Loss: 2.1130995750427246, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.1939924955368042, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.0979025736451149, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.24024179577827454, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.10768871009349823, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.16501957178115845, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.2123502641916275, Number of Images per iteration: 4
```

```
Epoch 0, Iteration 700, Loss: 0.10290493071079254, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.04778851196169853, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.11080590635538101, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.14s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.74s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.001
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.003
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[loU=0.50:0.95 | area= large | maxDets=100 ] = 0.001
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.003
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.036
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.070
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.071
Epoch 1, Iteration 0, Loss: 0.03516439348459244, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.28317272663116455, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.2508082687854767, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.18898215889930725, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.19705450534820557, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.13181805610656738, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.1926148235797882, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.3916029632091522, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.18820106983184814, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.06447038054466248, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
```

```
Evaluate annotation type *bbox*
DONE (t=0.77s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.001
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.005
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.001
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.007
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.048
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.090
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.091
Epoch 2, Iteration 0, Loss: 0.058250099420547485, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.04904013127088547, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.24286463856697083, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.07330012321472168, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.2998063564300537, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.10098753124475479, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.05943119525909424, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.2311081439256668, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.052058544009923935, Number of Images per iteration:
Epoch 2, Iteration 900, Loss: 0.09966573864221573, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.18s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.86s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.002
Average Precision (AP) @[ loU=0.50
                                       I area = all I maxDets=100 ] = 0.009
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
```

Running per image evaluation...

```
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.002
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.010
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.061
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.112
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.113
Average Recall
Epoch 3, Iteration 0, Loss: 0.15650320053100586, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.15770205855369568, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.23518598079681396, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.10474374890327454, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.2139347940683365, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.13945960998535156, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.0438537634909153, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.11473368108272552, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.29079264402389526, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.14223599433898926, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.18s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.96s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.003
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.014
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.004
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.015
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.082
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.139
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.140
Epoch 4, Iteration 0, Loss: 0.1593555063009262, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.22082021832466125, Number of Images per iteration: 4
Epoch 4, Iteration 200, Loss: 0.08849260210990906, Number of Images per iteration: 4
Epoch 4, Iteration 300, Loss: 0.17919661104679108, Number of Images per iteration: 4
```

```
Epoch 4, Iteration 400, Loss: 0.06901692599058151, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.02720373310148716, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.28588831424713135, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.21161285042762756, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.09880463778972626, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.1687421053647995, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.19s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.97s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.005
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.024
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.006
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.019
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.090
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.158
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.160
Average Recall
Epoch 5, Iteration 0, Loss: 0.07506635785102844, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.07415421307086945, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.15448178350925446, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.07698225975036621, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.13222257792949677, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.17257261276245117, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.07360441982746124, Number of Images per iteration: 4
Epoch 5, Iteration 700, Loss: 0.15915299952030182, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.12598362565040588, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.06831285357475281, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
```

```
DONE (t=0.19s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.97s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.005
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.024
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.007
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.018
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.092
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.160
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.162
Epoch 6, Iteration 0, Loss: 0.0948815569281578, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.15307843685150146, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.12865133583545685, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.26647838950157166, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.19102069735527039, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.30385473370552063, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.0636853575706482, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.2582712173461914, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.15476590394973755, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.1433115303516388, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.19s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.98s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.006
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.025
Average Precision (AP) @[ loU=0.75
                                       I area = all I maxDets=100 ] = 0.000
```

```
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.007
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.019
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.095
                  (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.164
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.165
Average Recall
Epoch 7. Iteration 0, Loss: 0.13413773477077484, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.2023943960666565, Number of Images per iteration: 4
Epoch 7, Iteration 200, Loss: 0.08101224154233932, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.11950702220201492, Number of Images per iteration: 4
Epoch 7, Iteration 400, Loss: 0.0954257920384407, Number of Images per iteration: 4
Epoch 7, Iteration 500, Loss: 0.10628248006105423, Number of Images per iteration: 4
Epoch 7, Iteration 600, Loss: 0.08062654733657837, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.11023639142513275, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.05203607305884361, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.08256448060274124, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.20s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.99s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.006
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.026
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 ] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.007
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.020
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.098
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.168
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.170
Average Recall
Epoch 8, Iteration 0, Loss: 0.12655894458293915, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.12819820642471313, Number of Images per iteration: 4
```

```
Epoch 8, Iteration 200, Loss: 0.21265831589698792, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.093601293861866, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.20488841831684113, Number of Images per iteration: 4
Epoch 8, Iteration 500, Loss: 0.1340339332818985, Number of Images per iteration: 4
Epoch 8, Iteration 600, Loss: 0.21288985013961792, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.03779211267828941, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.12442488968372345, Number of Images per iteration: 4
Epoch 8, Iteration 900, Loss: 0.10589373111724854, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.20s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.99s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.006
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.026
Average Precision (AP) @[ IoU=0.75
                                     | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.007
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.020
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.097
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.171
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.172
Average Recall
Epoch 9, Iteration 0, Loss: 0.03553827852010727, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.21571345627307892, Number of Images per iteration: 4
Epoch 9, Iteration 200, Loss: 0.054976657032966614, Number of Images per iteration:
Epoch 9, Iteration 300, Loss: 0.1009557694196701, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.16502772271633148, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.151785746216774, Number of Images per iteration: 4
Epoch 9, Iteration 600, Loss: 0.04971609637141228, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.17573703825473785, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.11925407499074936, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.0438363291323185, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
```

```
creating index...
index created!
Loading and preparing results...
DONE (t=0.19s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.99s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.006
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.026
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.006
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.020
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.099
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.170
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.172
Average Recall
Epoch 10, Iteration 0, Loss: 0.20016039907932281, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.060900378972291946, Number of Images per
iteration: 4
Epoch 10, Iteration 200, Loss: 0.013410086743533611, Number of Images per iteration:
Epoch 10, Iteration 300, Loss: 0.07007580995559692, Number of Images per iteration:
Epoch 10, Iteration 400, Loss: 0.0439777709543705, Number of Images per iteration: 4
Epoch 10, Iteration 500, Loss: 0.1676345020532608, Number of Images per iteration: 4
Epoch 10, Iteration 600, Loss: 0.1382313221693039, Number of Images per iteration: 4
Epoch 10, Iteration 700, Loss: 0.09530309587717056, Number of Images per iteration:
Epoch 10, Iteration 800, Loss: 0.06576026231050491, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.10616177320480347, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
```

```
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.17s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.006
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.027
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.007
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.020
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.099
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.171
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.172
Epoch 11, Iteration 0, Loss: 0.20844337344169617, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.027254631742835045, Number of Images per iteration:
Epoch 11, Iteration 200, Loss: 0.1885165125131607, Number of Images per iteration: 4
Epoch 11, Iteration 300, Loss: 0.14108906686306, Number of Images per iteration: 4
Epoch 11, Iteration 400, Loss: 0.21801401674747467, Number of Images per iteration:
Epoch 11, Iteration 500, Loss: 0.20679418742656708, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.19629763066768646, Number of Images per iteration:
Epoch 11, Iteration 700, Loss: 0.13899001479148865, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.19359087944030762, Number of Images per iteration:
Epoch 11, Iteration 900, Loss: 0.2960759401321411, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.19s).
Accumulating evaluation results...
```

```
DONE (t=0.21s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.006
Average Precision (AP) @[loU=0.75 | larea= all | maxDets=100] = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.007
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.020
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.099
Average Recall
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.171
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.172
Epoch 12, Iteration 0, Loss: 0.07252198457717896, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.2299351990222931, Number of Images per iteration: 4
Epoch 12, Iteration 200, Loss: 0.11385735124349594, Number of Images per iteration:
Epoch 12, Iteration 300, Loss: 0.11856918036937714, Number of Images per iteration:
Epoch 12, Iteration 400, Loss: 0.039976816624403, Number of Images per iteration: 4
Epoch 12, Iteration 500, Loss: 0.09184125065803528, Number of Images per iteration:
Epoch 12, Iteration 600, Loss: 0.06621608883142471, Number of Images per iteration:
Epoch 12, Iteration 700, Loss: 0.15715599060058594, Number of Images per iteration:
Epoch 12, Iteration 800, Loss: 0.05510513484477997, Number of Images per iteration:
Epoch 12, Iteration 900, Loss: 0.08463477343320847, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.03s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.99s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.006
Average Precision (AP) @[ loU=0.50
                                      | area = all | maxDets = 100 | = 0.027
Average Precision (AP) @[ loU=0.75
                                      | area = all | maxDets = 100 | = 0.001
```

```
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.007
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.020
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.099
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.170
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.172
Average Recall
Epoch 13, Iteration 0, Loss: 0.019735772162675858, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.08568000793457031, Number of Images per iteration:
Epoch 13, Iteration 200, Loss: 0.09605181217193604, Number of Images per iteration:
Epoch 13, Iteration 300, Loss: 0.12470278888940811, Number of Images per iteration:
Epoch 13, Iteration 400, Loss: 0.05581926926970482, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.1489790827035904, Number of Images per iteration: 4
Epoch 13, Iteration 600, Loss: 0.13626685738563538, Number of Images per iteration:
Epoch 13, Iteration 700, Loss: 0.15400055050849915, Number of Images per iteration:
Epoch 13, Iteration 800, Loss: 0.05220046639442444, Number of Images per iteration:
Epoch 13, Iteration 900, Loss: 0.05373217165470123, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.03s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.17s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.006
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.007
```

```
(AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.020
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.099
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.170
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.172
Epoch 14, Iteration 0, Loss: 0.024870790541172028, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.1109466701745987, Number of Images per iteration: 4
Epoch 14, Iteration 200, Loss: 0.1489390879869461, Number of Images per iteration: 4
Epoch 14, Iteration 300, Loss: 0.14303404092788696, Number of Images per iteration:
Epoch 14, Iteration 400, Loss: 0.07588451355695724, Number of Images per iteration:
Epoch 14, Iteration 500, Loss: 0.07423079758882523, Number of Images per iteration:
Epoch 14, Iteration 600, Loss: 0.02572575956583023, Number of Images per iteration:
Epoch 14, Iteration 700, Loss: 0.16408881545066833, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.08438233286142349, Number of Images per iteration:
Epoch 14, Iteration 900, Loss: 0.09222718328237534, Number of Images per iteration:
4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.03s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.18s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.006
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 ] = 0.027
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 | = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.007
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.020
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.099
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.171
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
```

```
(AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.172
Average Recall
momentum: 0.8125674631669115 lr: 0.0005829548490737816 weight_decay
2.991144970451843e-05
Epoch 0, Iteration 0, Loss: 1.3780580759048462, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.17562530934810638, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.0886019617319107, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.1186714619398117, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.07100456207990646, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.18827079236507416, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.3330605626106262, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.15030239522457123, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.09110718965530396, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.22664733231067657, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.14s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.95s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.020
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 ] = 0.082
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.021
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.040
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.146
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.214
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.216
Epoch 1, Iteration 0, Loss: 0.20587916672229767, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.21609637141227722, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.08675047755241394, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.18650572001934052, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.16755439341068268, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.05849764496088028, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.13107338547706604, Number of Images per iteration: 4
```

```
Epoch 1, Iteration 700, Loss: 0.060818109661340714, Number of Images per iteration:
Epoch 1, Iteration 800, Loss: 0.056006982922554016, Number of Images per iteration:
Epoch 1, Iteration 900, Loss: 0.2066592425107956, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.89s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.030
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.122
                                       | area = all | maxDets = 100 | = 0.002
Average Precision (AP) @[ loU=0.75
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.030
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.057
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.186
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.245
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.248
Epoch 2, Iteration 0, Loss: 0.01327432505786419, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.15528658032417297, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.22423145174980164, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.20873716473579407, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.13183388113975525, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.196243017911911, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.02460441365838051, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.1792382001876831, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.17040972411632538, Number of Images per iteration: 4
Epoch 2, Iteration 900, Loss: 0.15111739933490753, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
```

```
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.81s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.038
Average Precision (AP) @[IoU=0.50 | larea= all | maxDets=100] = 0.149
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.039
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.068
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.206
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.263
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.266
Epoch 3, Iteration 0, Loss: 0.012951904907822609, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.0665697306394577, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.15550705790519714, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.1420651376247406, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.2257193922996521, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.09614428132772446, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.22974400222301483, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.17082656919956207, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.15702879428863525, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.2342739999294281, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.045
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.169
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.006
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
```

creating index...

```
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.045
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.070
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.225
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.277
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.280
Epoch 4, Iteration 0, Loss: 0.10450579226016998, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.025643430650234222, Number of Images per iteration:
Epoch 4, Iteration 200, Loss: 0.12837429344654083, Number of Images per iteration: 4
Epoch 4, Iteration 300, Loss: 0.14844676852226257, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.09573908150196075, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.13447916507720947, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.24649688601493835, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.10455097258090973, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.17842866480350494, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.1424524337053299, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.07s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.049
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.184
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 ] = 0.009
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.049
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.076
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.236
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.295
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.298
Average Recall
Epoch 5, Iteration 0, Loss: 0.21204765141010284, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.1644250452518463, Number of Images per iteration: 4
```

```
Epoch 5, Iteration 200, Loss: 0.13575869798660278, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.21214796602725983, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.12568113207817078, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.25330257415771484, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.20547376573085785, Number of Images per iteration: 4
Epoch 5, Iteration 700, Loss: 0.093545101583004, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.01837511733174324, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.20879268646240234, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.79s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.050
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.191
Average Precision (AP) @[ loU=0.75
                                      | area = all | maxDets = 100 | = 0.008
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.050
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.078
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.240
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.286
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.288
Average Recall
Epoch 6, Iteration 0, Loss: 0.1323128044605255, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.18699027597904205, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.2842775583267212, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.26627516746520996, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.13876329362392426, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.10538940876722336, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.15386076271533966, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.34775036573410034, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.06173553690314293, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.06812363117933273, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
```

```
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.81s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.050
Average Precision (AP) @[IoU=0.50 | larea= all I maxDets=100] = 0.191
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.008
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.050
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.077
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.239
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.290
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.292
Epoch 7, Iteration 0, Loss: 0.17621196806430817, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.130451500415802, Number of Images per iteration: 4
Epoch 7, Iteration 200, Loss: 0.07948321849107742, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.23420223593711853, Number of Images per iteration: 4
Epoch 7, Iteration 400, Loss: 0.12314481288194656, Number of Images per iteration: 4
Epoch 7, Iteration 500, Loss: 0.020531486719846725, Number of Images per iteration:
Epoch 7, Iteration 600, Loss: 0.14624401926994324, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.10995497554540634, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.1828046590089798, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.15794500708580017, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.78s).
Accumulating evaluation results...
DONE (t=0.17s).
```

index created!

```
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.050
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.192
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.009
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.051
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.077
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.238
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.290
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.292
Average Recall
Epoch 8, Iteration 0, Loss: 0.09552016854286194, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.17092794179916382, Number of Images per iteration: 4
Epoch 8, Iteration 200, Loss: 0.0893666222691536, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.296608567237854, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.24600926041603088, Number of Images per iteration: 4
Epoch 8, Iteration 500, Loss: 0.1406068652868271, Number of Images per iteration: 4
Epoch 8, Iteration 600, Loss: 0.23854738473892212, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.07000679522752762, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.14330975711345673, Number of Images per iteration: 4
Epoch 8, Iteration 900, Loss: 0.1743462085723877, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.79s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.051
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.192
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.051
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.077
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.239
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.291
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.293
Epoch 9, Iteration 0, Loss: 0.14599528908729553, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.061643198132514954, Number of Images per iteration:
Epoch 9, Iteration 200, Loss: 0.05662352964282036, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.22478243708610535, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.10255572944879532, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.20903407037258148, Number of Images per iteration: 4
Epoch 9, Iteration 600, Loss: 0.206547349691391, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.08005806058645248, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.15514039993286133, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.08177081495523453, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.18s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.79s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.051
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.190
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.051
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.077
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.241
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.292
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
Average Recall
Epoch 10, Iteration 0, Loss: 0.09741289913654327, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.3045610785484314, Number of Images per iteration: 4
Epoch 10, Iteration 200, Loss: 0.13779349625110626, Number of Images per iteration:
Epoch 10, Iteration 300, Loss: 0.06027791649103165, Number of Images per iteration:
Epoch 10, Iteration 400, Loss: 0.25248411297798157, Number of Images per iteration:
Epoch 10, Iteration 500, Loss: 0.22489148378372192, Number of Images per iteration:
```

```
Epoch 10, Iteration 600, Loss: 0.16035394370555878, Number of Images per iteration:
Epoch 10, Iteration 700, Loss: 0.08367640525102615, Number of Images per iteration:
Epoch 10, Iteration 800, Loss: 0.21082432568073273, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.22375956177711487, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.18s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.79s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.051
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.010
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.051
Average Recall (AR) @[ IoU=0.50:0.95 | area= all | maxDets= 1 ] = 0.077
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.241
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.292
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
Average Recall
Epoch 11, Iteration 0, Loss: 0.14902439713478088, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.23928216099739075, Number of Images per iteration:
Epoch 11, Iteration 200, Loss: 0.17544737458229065, Number of Images per iteration:
Epoch 11, Iteration 300, Loss: 0.06906039267778397, Number of Images per iteration:
Epoch 11, Iteration 400, Loss: 0.26590946316719055, Number of Images per iteration:
Epoch 11, Iteration 500, Loss: 0.20492413640022278, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.14523035287857056, Number of Images per iteration:
```

```
Epoch 11, Iteration 700, Loss: 0.06435508280992508, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.19649748504161835, Number of Images per iteration:
Epoch 11, Iteration 900, Loss: 0.14768101274967194, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.95s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.051
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.190
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.010
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.051
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.077
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.241
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.292
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
Average Recall
Epoch 12, Iteration 0, Loss: 0.1427122950553894, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.1028502956032753, Number of Images per iteration: 4
Epoch 12, Iteration 200, Loss: 0.236919566988945, Number of Images per iteration: 4
Epoch 12, Iteration 300, Loss: 0.1438046097755432, Number of Images per iteration: 4
Epoch 12, Iteration 400, Loss: 0.04631794989109039, Number of Images per iteration:
Epoch 12, Iteration 500, Loss: 0.07579795271158218, Number of Images per iteration:
Epoch 12, Iteration 600, Loss: 0.07871422916650772, Number of Images per iteration:
Epoch 12, Iteration 700, Loss: 0.18629838526248932, Number of Images per iteration:
Epoch 12, Iteration 800, Loss: 0.19621090590953827, Number of Images per iteration:
```

```
Epoch 12, Iteration 900, Loss: 0.1056036502122879, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.78s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.051
Average Precision (AP) @[IoU=0.50 | larea= all | maxDets=100] = 0.190
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.051
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.077
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.241
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.292
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
Average Recall
Epoch 13, Iteration 0, Loss: 0.2586093842983246, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.16973288357257843, Number of Images per iteration:
Epoch 13, Iteration 200, Loss: 0.16361981630325317, Number of Images per iteration:
Epoch 13, Iteration 300, Loss: 0.24868711829185486, Number of Images per iteration:
Epoch 13, Iteration 400, Loss: 0.07510694116353989, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.20424315333366394, Number of Images per iteration:
Epoch 13, Iteration 600, Loss: 0.2594865560531616, Number of Images per iteration: 4
Epoch 13, Iteration 700, Loss: 0.14736007153987885, Number of Images per iteration:
Epoch 13, Iteration 800, Loss: 0.01945563033223152, Number of Images per iteration:
Epoch 13, Iteration 900, Loss: 0.05741148442029953, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
```

```
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.78s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.051
Average Precision (AP) @[IoU=0.50 | larea= all | maxDets=100] = 0.190
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.051
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.077
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.242
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.292
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.295
Epoch 14, Iteration 0, Loss: 0.18031516671180725, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.05632953345775604, Number of Images per iteration:
Epoch 14, Iteration 200, Loss: 0.15793314576148987, Number of Images per iteration:
Epoch 14, Iteration 300, Loss: 0.07947257161140442, Number of Images per iteration:
Epoch 14, Iteration 400, Loss: 0.1532268226146698, Number of Images per iteration: 4
Epoch 14, Iteration 500, Loss: 0.20806753635406494, Number of Images per iteration:
4
Epoch 14, Iteration 600, Loss: 0.255412757396698, Number of Images per iteration: 4
Epoch 14, Iteration 700, Loss: 0.2288695126771927, Number of Images per iteration: 4
Epoch 14, Iteration 800, Loss: 0.16144277155399323, Number of Images per iteration:
Epoch 14, Iteration 900, Loss: 0.16227048635482788, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
```

```
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.79s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.051
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.191
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.051
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.077
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.241
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.291
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.294
momentum: 0.9083356468413748 lr: 5.702282165183712e-05 weight_decay
3.115619831413701e-05
Epoch 0, Iteration 0, Loss: 0.6442059874534607, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.12251653522253036, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.1459627002477646, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.22072629630565643, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.015697196125984192, Number of Images per iteration:
Epoch 0, Iteration 500, Loss: 0.07399999350309372, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.2207367718219757, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.16264104843139648, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.1656055897474289, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.14856404066085815, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.14s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.85s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.001
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.007
```

index created!

```
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[loU=0.50:0.95 | area= large | maxDets=100 ] = 0.001
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.005
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.041
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.086
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.087
Epoch 1, Iteration 0, Loss: 0.16647085547447205, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.19344975054264069, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.2525167167186737, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.06343946605920792, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.13557001948356628, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.13995146751403809, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.15828430652618408, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.137139230966568, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.21937017142772675, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.08278532326221466, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.08s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.004
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.018
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.004
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.018
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.082
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.142
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.144
Epoch 2, Iteration 0, Loss: 0.09734825044870377, Number of Images per iteration: 4
```

```
Epoch 2, Iteration 100, Loss: 0.20047688484191895, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.1306147277355194, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.22854064404964447, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.09927277266979218, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.18200871348381042, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.18486377596855164, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.24929596483707428, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.23485657572746277, Number of Images per iteration: 4
Epoch 2, Iteration 900, Loss: 0.2143319845199585, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.07s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.008
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.035
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.008
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.028
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.108
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.172
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.174
Average Recall
Epoch 3, Iteration 0, Loss: 0.13954618573188782, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.1746983826160431, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.06771021336317062, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.2547234892845154, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.13292232155799866, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.25736409425735474, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.12895937263965607, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.23365874588489532, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.012574909254908562, Number of Images per iteration:
Epoch 3, Iteration 900, Loss: 0.05554533004760742, Number of Images per iteration: 4
loading annotations into memory...
```

```
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.01s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.013
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.056
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.014
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.038
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.134
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.198
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.200
Average Recall
Epoch 4, Iteration 0, Loss: 0.15284554660320282, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.2324173003435135, Number of Images per iteration: 4
Epoch 4, Iteration 200, Loss: 0.08331771194934845, Number of Images per iteration: 4
Epoch 4, Iteration 300, Loss: 0.14070594310760498, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.08716275542974472, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.2586972415447235, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.2601059675216675, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.26728054881095886, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.029520254582166672, Number of Images per iteration:
Epoch 4, Iteration 900, Loss: 0.11965515464544296, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.98s).
```

```
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.016
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.068
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.016
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.040
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.153
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.215
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.217
Epoch 5, Iteration 0, Loss: 0.07588717341423035, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.19092275202274323, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.11900918930768967, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.1703128069639206, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.10965067893266678, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.1186978742480278, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.015895772725343704, Number of Images per iteration:
Epoch 5, Iteration 700, Loss: 0.1166788637638092, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.2579038739204407, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.20472320914268494, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.00s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.016
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.069
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.017
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.042
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.153
```

```
(AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.215
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.217
Epoch 6, Iteration 0, Loss: 0.23590296506881714, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.032735154032707214, Number of Images per iteration:
Epoch 6, Iteration 200, Loss: 0.06403100490570068, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.23190799355506897, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.313917875289917, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.07735847681760788, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.09262767434120178, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.12585631012916565, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.09182635694742203, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.0875653624534607, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.00s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.017
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.070
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.017
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.043
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.154
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.216
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.218
Average Recall
Epoch 7, Iteration 0, Loss: 0.11521545797586441, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.2328854203224182, Number of Images per iteration: 4
Epoch 7, Iteration 200, Loss: 0.1492275446653366, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.050890177488327026, Number of Images per iteration:
Epoch 7, Iteration 400, Loss: 0.0988110676407814, Number of Images per iteration: 4
```

```
Epoch 7, Iteration 500, Loss: 0.16050834953784943, Number of Images per iteration: 4
Epoch 7, Iteration 600, Loss: 0.10433106124401093, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.0987711176276207, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.12281544506549835, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.08168904483318329, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.00s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.017
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.071
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.017
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.043
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.157
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.218
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.220
Epoch 8, Iteration 0, Loss: 0.07500270754098892, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.04703119397163391, Number of Images per iteration: 4
Epoch 8, Iteration 200, Loss: 0.06068889796733856, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.14374464750289917, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.2102106362581253, Number of Images per iteration: 4
Epoch 8, Iteration 500, Loss: 0.08744402974843979, Number of Images per iteration: 4
Epoch 8, Iteration 600, Loss: 0.09049706906080246, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.058005183935165405, Number of Images per iteration:
Epoch 8, Iteration 800, Loss: 0.09032300859689713, Number of Images per iteration: 4
Epoch 8, Iteration 900, Loss: 0.17147217690944672, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
```

```
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.01s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.018
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.074
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.018
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.042
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.157
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.219
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.221
Epoch 9, Iteration 0, Loss: 0.2535514235496521, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.07192087918519974, Number of Images per iteration: 4
Epoch 9, Iteration 200, Loss: 0.13737721741199493, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.206318661570549, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.12226468324661255, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.1598999947309494, Number of Images per iteration: 4
Epoch 9, Iteration 600, Loss: 0.32744917273521423, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.19555707275867462, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.26918020844459534, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.15651173889636993, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.19s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.018
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.075
Average Precision (AP) @[ loU=0.75
                                       I area = all I maxDets=100 ] = 0.001
```

DONE (t=0.02s)

```
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.019
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.043
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.157
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.220
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.223
Average Recall
Epoch 10, Iteration 0, Loss: 0.15437515079975128, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.15004238486289978, Number of Images per iteration:
Epoch 10, Iteration 200, Loss: 0.17540639638900757, Number of Images per iteration:
Epoch 10, Iteration 300, Loss: 0.17614507675170898, Number of Images per iteration:
Epoch 10, Iteration 400, Loss: 0.16842234134674072, Number of Images per iteration:
Epoch 10, Iteration 500, Loss: 0.1546425223350525, Number of Images per iteration: 4
Epoch 10, Iteration 600, Loss: 0.07434579730033875, Number of Images per iteration:
Epoch 10, Iteration 700, Loss: 0.2143482118844986, Number of Images per iteration: 4
Epoch 10, Iteration 800, Loss: 0.19125516712665558, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.1305958777666092, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.01s).
Accumulating evaluation results...
DONE (t=0.38s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.018
Average Precision (AP) @[ loU=0.75
                                      | area = all | maxDets = 100 | = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.019
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.043
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.157
Average Recall
```

```
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.220
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.223
Epoch 11, Iteration 0, Loss: 0.0336342416703701, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.1581856906414032, Number of Images per iteration: 4
Epoch 11, Iteration 200, Loss: 0.10058797895908356, Number of Images per iteration:
Epoch 11, Iteration 300, Loss: 0.02255220152437687, Number of Images per iteration:
Epoch 11, Iteration 400, Loss: 0.059287697076797485, Number of Images per iteration:
Epoch 11, Iteration 500, Loss: 0.15237854421138763, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.1404382735490799, Number of Images per iteration: 4
Epoch 11, Iteration 700, Loss: 0.10686719417572021, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.01737353205680847, Number of Images per iteration:
Epoch 11, Iteration 900, Loss: 0.18554654717445374, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.00s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.019
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.076
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.019
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.043
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.158
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.221
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.223
```

```
Epoch 12, Iteration 0, Loss: 0.16168539226055145, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.12928394973278046, Number of Images per iteration:
Epoch 12, Iteration 200, Loss: 0.15386268496513367, Number of Images per iteration:
Epoch 12, Iteration 300, Loss: 0.22317971289157867, Number of Images per iteration:
Epoch 12, Iteration 400, Loss: 0.09051930159330368, Number of Images per iteration:
Epoch 12, Iteration 500, Loss: 0.30221810936927795, Number of Images per iteration:
Epoch 12, Iteration 600, Loss: 0.21760550141334534, Number of Images per iteration:
Epoch 12, Iteration 700, Loss: 0.11646287888288498, Number of Images per iteration:
Epoch 12, Iteration 800, Loss: 0.09243971109390259, Number of Images per iteration:
Epoch 12, Iteration 900, Loss: 0.1821204274892807, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.03s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.02s).
Accumulating evaluation results...
DONE (t=0.39s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.019
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.077
Average Precision (AP) @[ loU=0.75 | l area= all l maxDets=100 ] = 0.001
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.019
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.043
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.157
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.221
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.224
Epoch 13, Iteration 0, Loss: 0.10380557179450989, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.13747921586036682, Number of Images per iteration:
4
```

```
Epoch 13, Iteration 200, Loss: 0.07995251566171646, Number of Images per iteration:
Epoch 13, Iteration 300, Loss: 0.3048161566257477, Number of Images per iteration: 4
Epoch 13, Iteration 400, Loss: 0.16351187229156494, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.09638325870037079, Number of Images per iteration:
Epoch 13, Iteration 600, Loss: 0.10456953942775726, Number of Images per iteration:
Epoch 13, Iteration 700, Loss: 0.11223071068525314, Number of Images per iteration:
Epoch 13, Iteration 800, Loss: 0.1855056881904602, Number of Images per iteration: 4
Epoch 13, Iteration 900, Loss: 0.08598604053258896, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.03s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.02s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.019
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.019
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.043
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.157
                (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.221
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.223
Average Recall
Epoch 14, Iteration 0, Loss: 0.18615859746932983, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.10496241599321365, Number of Images per iteration:
Epoch 14, Iteration 200, Loss: 0.12286731600761414, Number of Images per iteration:
Epoch 14, Iteration 300, Loss: 0.3115130066871643, Number of Images per iteration: 4
Epoch 14, Iteration 400, Loss: 0.15486900508403778, Number of Images per iteration:
```

```
Epoch 14, Iteration 500, Loss: 0.15362487733364105, Number of Images per iteration:
Epoch 14, Iteration 600, Loss: 0.14794769883155823, Number of Images per iteration:
Epoch 14, Iteration 700, Loss: 0.13231943547725677, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.24786844849586487, Number of Images per iteration:
Epoch 14, Iteration 900, Loss: 0.21179181337356567, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.01s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.019
Average Precision (AP) @[ loU=0.50 | l area= all l maxDets=100 ] = 0.077
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.019
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.044
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.157
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.221
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.223
Average Recall
momentum: 0.8028870967259404 lr: 3.044073257850759e-05 weight_decay
2.108558836632032e-05
Epoch 0, Iteration 0, Loss: 1.8072437047958374, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.18553569912910461, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.10990218073129654, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.4209790527820587, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.15576371550559998, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.08531845360994339, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.18435890972614288, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.12915170192718506, Number of Images per iteration: 4
```

```
Epoch 0, Iteration 800, Loss: 0.1854848861694336, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.13451127707958221, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.15s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.95s).
Accumulating evaluation results...
DONE (t=0.21s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.001
Average Precision (AP) @[IoU=0.50 | larea= all I maxDets=100] = 0.004
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.001
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.003
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.028
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.072
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.072
Average Recall
An exception occurred:
momentum: 0.8814157190625743 lr: 1.356919868036628e-05 weight_decay
6.891432444657557e-06
Epoch 0, Iteration 0, Loss: 1.3573856353759766, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.10612154006958008, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.06636114418506622, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.2638128697872162, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.1112126037478447, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.07107509672641754, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.23730435967445374, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.21630339324474335, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.054581914097070694, Number of Images per iteration:
4
Epoch 0, Iteration 900, Loss: 0.16851843893527985, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
```

```
DONE (t=0.15s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.88s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.001
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.003
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.001
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.001
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.020
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.065
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.066
An exception occurred:
momentum: 0.9586438446393546 lr: 0.0005054015950232658 weight decay
0.0004839008617143593
Epoch 0, Iteration 0, Loss: 0.6997621655464172, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.01625627651810646, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.07907373458147049, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.17666198313236237, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.19641022384166718, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.026102855801582336, Number of Images per iteration:
4
Epoch 0, Iteration 600, Loss: 0.12668170034885406, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.03537015989422798, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.07633703202009201, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.2395612597465515, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.15s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.04s).
Accumulating evaluation results...
```

```
DONE (t=0.22s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.048
Average Precision (AP) @[ loU=0.50
                                     | area = all | maxDets = 100 | = 0.167
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.049
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.068
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.221
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.283
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.050
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.285
Average Recall
Epoch 1, Iteration 0, Loss: 0.17401787638664246, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.16767294704914093, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.1382187455892563, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.17770129442214966, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.279209703207016, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.15646633505821228, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.1888311356306076, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.08267243951559067, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.16104713082313538, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.027675850316882133, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.86s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.060
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.018
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.002
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.061
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.078
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.250
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.305
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.308
Epoch 2, Iteration 0, Loss: 0.19473272562026978, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.16907894611358643, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.20787201821804047, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.11595079302787781, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.16142363846302032, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.16225622594356537, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.2936364412307739, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.1484551727771759, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.2451476752758026, Number of Images per iteration: 4
Epoch 2, Iteration 900, Loss: 0.11314838379621506, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.070
Average Precision (AP) @[ loU=0.50
                                       I area = all I maxDets=100 ] = 0.238
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.017
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.007
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.070
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.087
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.260
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.301
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.303
Epoch 3, Iteration 0, Loss: 0.1271064132452011, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.05815582722425461, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.07066285610198975, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.145306795835495, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.1892557442188263, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.05552496016025543, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.2719530165195465, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.12889428436756134, Number of Images per iteration: 4
```

```
Epoch 3, Iteration 800, Loss: 0.1561206728219986, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.053867071866989136, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.01s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.74s).
Accumulating evaluation results...
DONE (t=0.13s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.078
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.260
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.022
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.011
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.078
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.099
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.276
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.307
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.309
Epoch 4, Iteration 0, Loss: 0.1897735297679901, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.12258517742156982, Number of Images per iteration: 4
Epoch 4, Iteration 200, Loss: 0.15418459475040436, Number of Images per iteration: 4
Epoch 4, Iteration 300, Loss: 0.23350030183792114, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.18028925359249115, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.10779964923858643, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.22732943296432495, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.02143891528248787, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.13794350624084473, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.06804753839969635, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
```

```
Evaluate annotation type *bbox*
DONE (t=0.70s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 | = 0.078
Average Precision (AP) @[ loU=0.50
                                     | area = all | maxDets = 100 | = 0.263
Average Precision (AP) @[ IoU=0.75
                                     | area = all | maxDets = 100 | = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.034
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.079
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.100
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.271
Average Recall
Average Recall
                (AR) @[loU=0.50:0.95 larea= all lmaxDets=100] = 0.313
                 (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.315
Epoch 5, Iteration 0, Loss: 0.13503189384937286, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.1282820850610733, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.2044626623392105, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.08211728930473328, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.1295769363641739, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.17985451221466064, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.32201433181762695, Number of Images per iteration: 4
Epoch 5, Iteration 700, Loss: 0.214528888463974, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.11061713099479675, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.15110647678375244, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.73s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.083
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.026
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.083
```

Running per image evaluation...

```
(AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.103
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.281
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.322
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.324
Average Recall
Epoch 6, Iteration 0, Loss: 0.19891402125358582, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.16675427556037903, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.07119491696357727, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.03572211414575577, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.05948434770107269, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.10783564299345016, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.04536637291312218, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.1945124864578247, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.1956283003091812, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.06665153056383133, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.71s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.082
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets=100 | = 0.268
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.026
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.083
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.101
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.282
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.326
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.328
Epoch 7, Iteration 0, Loss: 0.010113097727298737, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.34334853291511536, Number of Images per iteration: 4
Epoch 7, Iteration 200, Loss: 0.1488087773323059, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.02082320675253868, Number of Images per iteration: 4
Epoch 7, Iteration 400, Loss: 0.09386120736598969, Number of Images per iteration: 4
```

```
Epoch 7, Iteration 500, Loss: 0.12508387863636017, Number of Images per iteration: 4
Epoch 7, Iteration 600, Loss: 0.11626551300287247, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.10417996346950531, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.1582535058259964, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.20405268669128418, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.70s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.083
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.269
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.023
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.034
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.084
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.103
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.287
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.325
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.328
Epoch 8, Iteration 0, Loss: 0.13739371299743652, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.10807699710130692, Number of Images per iteration: 4
Epoch 8, Iteration 200, Loss: 0.1119999960064888, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.10233715176582336, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.14062021672725677, Number of Images per iteration: 4
Epoch 8, Iteration 500, Loss: 0.19218702614307404, Number of Images per iteration: 4
Epoch 8, Iteration 600, Loss: 0.1269260197877884, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.10359829664230347, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.26655563712120056, Number of Images per iteration: 4
Epoch 8, Iteration 900, Loss: 0.16566099226474762, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
```

```
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.93s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.084
Average Precision (AP) @[IoU=0.50 | larea= all | maxDets=100] = 0.274
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 ] = 0.022
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.026
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.084
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.102
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.288
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.330
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.333
Epoch 9, Iteration 0, Loss: 0.0839499980211258, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.10858236998319626, Number of Images per iteration: 4
Epoch 9, Iteration 200, Loss: 0.22182711958885193, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.07321889698505402, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.21882475912570953, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.1652788519859314, Number of Images per iteration: 4
Epoch 9, Iteration 600, Loss: 0.0798574909567833, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.09580425173044205, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.07011469453573227, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.18435333669185638, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.68s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.082
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.274
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.021
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
```

creating index...

```
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.034
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.083
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.101
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.285
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.319
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.321
Epoch 10, Iteration 0, Loss: 0.09851294010877609, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.025077490136027336, Number of Images per
iteration: 4
Epoch 10, Iteration 200, Loss: 0.07813127338886261, Number of Images per iteration:
Epoch 10, Iteration 300, Loss: 0.12378004193305969, Number of Images per iteration:
Epoch 10, Iteration 400, Loss: 0.11312413215637207, Number of Images per iteration:
Epoch 10, Iteration 500, Loss: 0.1575576364994049, Number of Images per iteration: 4
Epoch 10, Iteration 600, Loss: 0.47220709919929504, Number of Images per iteration:
Epoch 10, Iteration 700, Loss: 0.2265557199716568, Number of Images per iteration: 4
Epoch 10, Iteration 800, Loss: 0.10940077900886536, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.07839994877576828, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.082
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.272
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.021
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.034
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.083
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.103
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.284
Average Recall
```

```
(AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.319
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.321
Epoch 11, Iteration 0, Loss: 0.014854039996862411, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.18261079490184784, Number of Images per iteration:
Epoch 11, Iteration 200, Loss: 0.14091232419013977, Number of Images per iteration:
Epoch 11, Iteration 300, Loss: 0.20765000581741333, Number of Images per iteration:
Epoch 11, Iteration 400, Loss: 0.16165322065353394, Number of Images per iteration:
Epoch 11, Iteration 500, Loss: 0.17247624695301056, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.11667010933160782, Number of Images per iteration:
Epoch 11, Iteration 700, Loss: 0.10739241540431976, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.0672513023018837, Number of Images per iteration: 4
Epoch 11, Iteration 900, Loss: 0.20345309376716614, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.70s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all I maxDets=100 ] = 0.082
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.273
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.021
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.034
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.083
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.103
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.283
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.319
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.322
Average Recall
Epoch 12, Iteration 0, Loss: 0.2840530574321747, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.15119124948978424, Number of Images per iteration:
Epoch 12, Iteration 200, Loss: 0.1305670589208603, Number of Images per iteration: 4
Epoch 12, Iteration 300, Loss: 0.27277377247810364, Number of Images per iteration:
Epoch 12, Iteration 400, Loss: 0.09436533600091934, Number of Images per iteration:
Epoch 12, Iteration 500, Loss: 0.01912776380777359, Number of Images per iteration:
Epoch 12, Iteration 600, Loss: 0.15902648866176605, Number of Images per iteration:
Epoch 12, Iteration 700, Loss: 0.014490088447928429, Number of Images per
iteration: 4
Epoch 12, Iteration 800, Loss: 0.012248976156115532, Number of Images per iteration:
Epoch 12, Iteration 900, Loss: 0.16994793713092804, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.70s).
Accumulating evaluation results...
DONE (t=0.31s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.083
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.273
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets=100 ] = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.034
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.084
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.103
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.283
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.319
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.321
Epoch 13, Iteration 0, Loss: 0.18352869153022766, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.13884423673152924, Number of Images per iteration:
```

```
Epoch 13, Iteration 200, Loss: 0.11380236595869064, Number of Images per iteration:
Epoch 13, Iteration 300, Loss: 0.12316016107797623, Number of Images per iteration:
Epoch 13, Iteration 400, Loss: 0.06326216459274292, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.1489807665348053, Number of Images per iteration: 4
Epoch 13, Iteration 600, Loss: 0.19279320538043976, Number of Images per iteration:
Epoch 13, Iteration 700, Loss: 0.11341496556997299, Number of Images per iteration:
Epoch 13, Iteration 800, Loss: 0.09973988682031631, Number of Images per iteration:
Epoch 13, Iteration 900, Loss: 0.10499326884746552, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.083
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.274
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets=100 | = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.034
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.084
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.104
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.283
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.319
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.322
Epoch 14, Iteration 0, Loss: 0.023362554609775543, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.2599830627441406, Number of Images per iteration: 4
Epoch 14, Iteration 200, Loss: 0.18367892503738403, Number of Images per iteration:
Epoch 14, Iteration 300, Loss: 0.10210888087749481, Number of Images per iteration:
```

```
Epoch 14, Iteration 400, Loss: 0.16297337412834167, Number of Images per iteration:
Epoch 14, Iteration 500, Loss: 0.15407273173332214, Number of Images per iteration:
Epoch 14, Iteration 600, Loss: 0.12259197235107422, Number of Images per iteration:
Epoch 14, Iteration 700, Loss: 0.10206439346075058, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.15479642152786255, Number of Images per iteration:
Epoch 14, Iteration 900, Loss: 0.15250566601753235, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.083
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.273
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.020
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.034
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.084
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.104
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.282
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.319
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.100
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.322
momentum: 0.9474036242426755 lr: 0.0002875815651478445 weight_decay
6.521268124805454e-06
Epoch 0, Iteration 0, Loss: 1.378944993019104, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.14708513021469116, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.12427057325839996, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.11002062261104584, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.08800243586301804, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.0600237138569355, Number of Images per iteration: 4
```

```
Epoch 0, Iteration 600, Loss: 0.1839274764060974, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.15863175690174103, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.1997891366481781, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.14609181880950928, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.15s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.97s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.030
Average Precision (AP) @[loU=0.50 | area= all | maxDets=100] = 0.111
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.030
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.050
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.180
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.244
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.247
Epoch 1, Iteration 0, Loss: 0.022436119616031647, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.0941714495420456, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.04389885812997818, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.09078975766897202, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.10839837044477463, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.18685473501682281, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.104457788169384, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.14552348852157593, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.07229819148778915, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.19362466037273407, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
```

```
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.94s).
Accumulating evaluation results...
DONE (t=0.20s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.043
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.156
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.013
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.043
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.070
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.215
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.276
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.279
Epoch 2, Iteration 0, Loss: 0.2825682759284973, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.01137575414031744, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.25358444452285767, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.23646049201488495, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.0760074034333229, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.008260218426585197, Number of Images per iteration:
Epoch 2, Iteration 600, Loss: 0.19270561635494232, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.05099735036492348, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.029243841767311096, Number of Images per iteration:
Epoch 2, Iteration 900, Loss: 0.15696072578430176, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.68s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.050
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.185
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.009
```

index created!

```
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.050
                  (AR) @[loU=0.50:0.95 l area= all l maxDets= 1] = 0.073
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.231
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.275
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.277
Average Recall
Epoch 3, Iteration 0, Loss: 0.21326150000095367, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.08548455685377121, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.0508590042591095, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.11122619360685349, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.2165035456418991, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.02773284912109375, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.15442436933517456, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.13552214205265045, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.0992051512002945, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.2506137192249298, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.80s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.058
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.212
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 ] = 0.012
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.001
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.058
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.080
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.243
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.297
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.299
Average Recall
Epoch 4, Iteration 0, Loss: 0.1944853663444519, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.01803908869624138, Number of Images per iteration: 4
```

```
Epoch 4, Iteration 200, Loss: 0.26336589455604553, Number of Images per iteration: 4
Epoch 4, Iteration 300, Loss: 0.13920658826828003, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.20357248187065125, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.13360251486301422, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.013530880212783813, Number of Images per iteration:
Epoch 4, Iteration 700, Loss: 0.08500857651233673, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.18955954909324646, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.15694309771060944, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.99s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.067
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.233
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.017
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.083
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.257
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.306
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.309
Average Recall
Epoch 5, Iteration 0, Loss: 0.12597134709358215, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.18823061883449554, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.10297589749097824, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.17761430144309998, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.26969966292381287, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.13047225773334503, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.24138520658016205, Number of Images per iteration: 4
Epoch 5, Iteration 700, Loss: 0.04307297244668007, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.16328321397304535, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.13382898271083832, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
```

```
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.74s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.068
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.239
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.018
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.004
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.087
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.258
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.299
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.301
Average Recall
Epoch 6, Iteration 0, Loss: 0.3192661702632904, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.20139439404010773, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.1183488741517067, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.012621806934475899, Number of Images per iteration:
Epoch 6, Iteration 400, Loss: 0.11601639539003372, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.06648518145084381, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.1315857470035553, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.2201036959886551, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.17071673274040222, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.1137036681175232, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.77s).
Accumulating evaluation results...
```

```
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.067
Average Precision (AP) @[ loU=0.50
                                      | area = all | maxDets = 100 | = 0.238
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.018
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.004
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.088
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.255
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.299
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.302
Average Recall
Epoch 7, Iteration 0, Loss: 0.19617100059986115, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.06296443939208984, Number of Images per iteration: 4
Epoch 7, Iteration 200, Loss: 0.11914794147014618, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.19194455444812775, Number of Images per iteration: 4
Epoch 7, Iteration 400, Loss: 0.10628262162208557, Number of Images per iteration: 4
Epoch 7, Iteration 500, Loss: 0.014160102233290672, Number of Images per iteration:
Epoch 7, Iteration 600, Loss: 0.1338205486536026, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.09979012608528137, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.11875466257333755, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.08689042180776596, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.068
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.018
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.089
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.256
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.300
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.302
Epoch 8, Iteration 0, Loss: 0.07698576897382736, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.10383652150630951, Number of Images per iteration: 4
Epoch 8, Iteration 200, Loss: 0.2343900501728058, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.15317289531230927, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.10315990447998047, Number of Images per iteration: 4
Epoch 8, Iteration 500, Loss: 0.1297205090522766, Number of Images per iteration: 4
Epoch 8, Iteration 600, Loss: 0.11654230207204819, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.3083096146583557, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.05508546531200409, Number of Images per iteration: 4
Epoch 8, Iteration 900, Loss: 0.2526409327983856, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.067
Average Precision (AP) @[ loU=0.50
                                       I area = all I maxDets=100 ] = 0.237
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.018
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.087
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.259
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.300
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.302
Epoch 9, Iteration 0, Loss: 0.24856539070606232, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.08195655792951584, Number of Images per iteration: 4
Epoch 9, Iteration 200, Loss: 0.05200176686048508, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.149675190448761, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.052868835628032684, Number of Images per iteration:
Epoch 9, Iteration 500, Loss: 0.018511511385440826, Number of Images per iteration:
```

```
Epoch 9, Iteration 600, Loss: 0.09119071066379547, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.1096775159239769, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.13191169500350952, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.06985742598772049, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.72s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.068
Average Precision (AP) @[IoU=0.50 | larea= all I maxDets=100] = 0.236
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.018
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.005
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.089
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.261
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.297
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.300
Epoch 10, Iteration 0, Loss: 0.2525981664657593, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.13766644895076752, Number of Images per iteration:
Epoch 10, Iteration 200, Loss: 0.31128209829330444, Number of Images per iteration:
Epoch 10, Iteration 300, Loss: 0.16521434485912323, Number of Images per iteration:
Epoch 10, Iteration 400, Loss: 0.21140219271183014, Number of Images per iteration:
Epoch 10, Iteration 500, Loss: 0.1949194222688675, Number of Images per iteration: 4
Epoch 10, Iteration 600, Loss: 0.12453914433717728, Number of Images per iteration:
Epoch 10, Iteration 700, Loss: 0.3040252923965454, Number of Images per iteration: 4
Epoch 10, Iteration 800, Loss: 0.19883374869823456, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.21191610395908356, Number of Images per iteration:
```

```
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.74s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.068
Average Precision (AP) @[IoU=0.50 | larea= all I maxDets=100] = 0.236
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.018
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.005
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.089
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.262
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.300
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.302
Average Recall
Epoch 11, Iteration 0, Loss: 0.16194561123847961, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.04087337478995323, Number of Images per iteration:
Epoch 11, Iteration 200, Loss: 0.13013243675231934, Number of Images per iteration:
Epoch 11, Iteration 300, Loss: 0.015257700346410275, Number of Images per iteration:
Epoch 11, Iteration 400, Loss: 0.21309533715248108, Number of Images per iteration:
Epoch 11, Iteration 500, Loss: 0.05597735568881035, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.1255800873041153, Number of Images per iteration: 4
Epoch 11, Iteration 700, Loss: 0.20034204423427582, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.22704823315143585, Number of Images per iteration:
Epoch 11, Iteration 900, Loss: 0.14410559833049774, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
```

```
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.91s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.068
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.018
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.005
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.089
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.262
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.300
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.303
Epoch 12, Iteration 0, Loss: 0.1476273238658905, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.1284017562866211, Number of Images per iteration: 4
Epoch 12, Iteration 200, Loss: 0.13796323537826538, Number of Images per iteration:
Epoch 12, Iteration 300, Loss: 0.20543888211250305, Number of Images per iteration:
Epoch 12, Iteration 400, Loss: 0.017145805060863495, Number of Images per
iteration: 4
Epoch 12, Iteration 500, Loss: 0.14624734222888947, Number of Images per iteration:
Epoch 12, Iteration 600, Loss: 0.2701377272605896, Number of Images per iteration: 4
Epoch 12, Iteration 700, Loss: 0.15466859936714172, Number of Images per iteration:
Epoch 12, Iteration 800, Loss: 0.2857193648815155, Number of Images per iteration: 4
Epoch 12, Iteration 900, Loss: 0.01702716201543808, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
```

index created!

```
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.068
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.238
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.018
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.005
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.089
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.262
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.301
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.303
Epoch 13, Iteration 0, Loss: 0.13611507415771484, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.1949513703584671, Number of Images per iteration: 4
Epoch 13, Iteration 200, Loss: 0.10726852715015411, Number of Images per iteration:
Epoch 13, Iteration 300, Loss: 0.06134098768234253, Number of Images per iteration:
Epoch 13, Iteration 400, Loss: 0.14965544641017914, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.0737011507153511, Number of Images per iteration: 4
Epoch 13, Iteration 600, Loss: 0.2528412640094757, Number of Images per iteration: 4
Epoch 13, Iteration 700, Loss: 0.13256867229938507, Number of Images per iteration:
Epoch 13, Iteration 800, Loss: 0.1538378894329071, Number of Images per iteration: 4
Epoch 13, Iteration 900, Loss: 0.06430776417255402, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.068
```

```
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.238
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.018
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.005
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.090
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.263
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.301
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.303
Epoch 14, Iteration 0, Loss: 0.11877863109111786, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.14077560603618622, Number of Images per iteration:
Epoch 14, Iteration 200, Loss: 0.35158705711364746, Number of Images per iteration:
Epoch 14, Iteration 300, Loss: 0.12332739681005478, Number of Images per iteration:
Epoch 14, Iteration 400, Loss: 0.1506553292274475, Number of Images per iteration: 4
Epoch 14, Iteration 500, Loss: 0.29526954889297485, Number of Images per iteration:
Epoch 14, Iteration 600, Loss: 0.2958618402481079, Number of Images per iteration: 4
Epoch 14, Iteration 700, Loss: 0.08787533640861511, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.16124378144741058, Number of Images per iteration:
Epoch 14, Iteration 900, Loss: 0.17890425026416779, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.068
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.238
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.019
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.005
```

```
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.090
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.264
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.302
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.305
momentum: 0.9875837856506254 lr: 1.4103244783332286e-05 weight_decay
1.924269152441884e-06
Epoch 0, Iteration 0, Loss: 0.6335660815238953, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.22138595581054688, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.23990042507648468, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.005648094695061445, Number of Images per iteration:
Epoch 0, Iteration 400, Loss: 0.13909068703651428, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.1358388513326645, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.1009514331817627, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.22383321821689606, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.1263057291507721, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.2199854701757431, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.15s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.14s).
Accumulating evaluation results...
DONE (t=0.23s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.005
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 ] = 0.022
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.005
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.016
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.076
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.132
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.134
An exception occurred:
```

```
momentum: 0.9375120302579196 lr: 0.00021953190067765387 weight_decay
0.000864635225828126
Epoch 0, Iteration 0, Loss: 0.5515505075454712, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.09082666784524918, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.16843785345554352, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.19036716222763062, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.04777153208851814, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.09216613322496414, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.26499155163764954, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.06825358420610428, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.01819218136370182, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.18802094459533691, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.15s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.93s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.019
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.080
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.002
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.019
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.040
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.151
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.222
                  (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.224
Epoch 1, Iteration 0, Loss: 0.13920941948890686, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.14298562705516815, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.2669224739074707, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.13897822797298431, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.15208257734775543, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.162504181265831, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.14751668274402618, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.052363038063049316, Number of Images per iteration:
```

```
Epoch 1, Iteration 800, Loss: 0.2103957235813141, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.14176930487155914, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.77s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.032
Average Precision (AP) @[IoU=0.50 | larea= all I maxDets=100] = 0.123
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.003
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.032
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.059
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.184
Average Recall
                 (AR) @[loU=0.50:0.95 larea= all lmaxDets=100] = 0.244
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.247
Average Recall
An exception occurred:
momentum: 0.9468029980472347 lr: 0.00030856572164696675 weight_decay
0.00011045644187069833
Epoch 0, Iteration 0, Loss: 1.2901411056518555, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.07780001312494278, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.16944843530654907, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.2996401786804199, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.23250815272331238, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.039983153343200684, Number of Images per iteration:
Epoch 0, Iteration 600, Loss: 0.09201173484325409, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.2447492778301239, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.18770964443683624, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.1327010840177536, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
```

```
DONE (t=0.14s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.90s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.029
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.106
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.011
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.029
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.052
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.181
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.253
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.255
Epoch 1, Iteration 0, Loss: 0.048484500497579575, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.09421064704656601, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.029461000114679337, Number of Images per iteration:
Epoch 1, Iteration 300, Loss: 0.18967992067337036, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.01629021391272545, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.08826212584972382, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.1292618364095688, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.05620871111750603, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.10426192730665207, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.19440802931785583, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.84s).
Accumulating evaluation results...
DONE (t=0.18s).
Average Precision (AP) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.045
Average Precision (AP) @[IoU=0.50 | larea= all I maxDets=100] = 0.163
```

```
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.014
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.045
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.067
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.218
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.280
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.283
Epoch 2, Iteration 0, Loss: 0.13778731226921082, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.15753287076950073, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.15811999142169952, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.10898672789335251, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.1037624254822731, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.01842445880174637, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.0799231231212616, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.15700456500053406, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.06927142292261124, Number of Images per iteration: 4
Epoch 2, Iteration 900, Loss: 0.18607556819915771, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.053
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.197
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.015
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.001
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.054
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.076
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.236
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.284
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.050
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.287
Epoch 3, Iteration 0, Loss: 0.2890491187572479, Number of Images per iteration: 4
```

```
Epoch 3, Iteration 100, Loss: 0.02276398241519928, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.2650966942310333, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.00917112734168768, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.10649193078279495, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.16727466881275177, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.12752676010131836, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.20048411190509796, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.1092790737748146, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.2777270972728729, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.86s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.061
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.212
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.017
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.003
Average Precision (AP) @[loU=0.50:0.95 | area= large | maxDets=100 ] = 0.061
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.086
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.248
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.292
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.295
Average Recall
Epoch 4, Iteration 0, Loss: 0.09512116014957428, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.06296578794717789, Number of Images per iteration: 4
Epoch 4, Iteration 200, Loss: 0.12537886202335358, Number of Images per iteration: 4
Epoch 4, Iteration 300, Loss: 0.2268671989440918, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.11895973235368729, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.18806380033493042, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.0830717459321022, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.09809459000825882, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.06405859440565109, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.06944119930267334, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
```

```
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.067
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.228
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.019
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.008
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.088
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.264
Average Recall
                 (AR) @[loU=0.50:0.95 larea= all lmaxDets=100] = 0.303
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.306
Average Recall
Epoch 5, Iteration 0, Loss: 0.17395716905593872, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.04816775396466255, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.05193310230970383, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.13604004681110382, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.21459901332855225, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.0986052080988884, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.18971392512321472, Number of Images per iteration: 4
Epoch 5, Iteration 700, Loss: 0.21075956523418427, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.11593929678201675, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.06344021111726761, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.71s).
Accumulating evaluation results...
DONE (t=0.16s).
```

```
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.067
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.227
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets=100 | = 0.020
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.016
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.067
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.087
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.266
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.310
Average Recall
                  (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.313
Average Recall
Epoch 6, Iteration 0, Loss: 0.07751116901636124, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.1236405223608017, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.2493835836648941, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.01686563529074192, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.1916651576757431, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.13909690082073212, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.14516229927539825, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.08737201988697052, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.14696019887924194, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.2466457188129425, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.067
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.227
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets=100 ] = 0.020
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.021
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.068
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.088
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.266
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.314
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.317
Average Recall
Epoch 7, Iteration 0, Loss: 0.16803006827831268, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.2573830783367157, Number of Images per iteration: 4
Epoch 7, Iteration 200, Loss: 0.19172394275665283, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.12081356346607208, Number of Images per iteration: 4
Epoch 7, Iteration 400, Loss: 0.3244439959526062, Number of Images per iteration: 4
Epoch 7, Iteration 500, Loss: 0.022693105041980743, Number of Images per iteration:
Epoch 7, Iteration 600, Loss: 0.2777724862098694, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.04841742664575577, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.14562450349330902, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.18374335765838623, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.77s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.068
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.229
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets=100 | = 0.020
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.021
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.088
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.266
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.316
Average Recall
                  (AR) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.319
Average Recall
Epoch 8, Iteration 0, Loss: 0.06265686452388763, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.15105214715003967, Number of Images per iteration: 4
Epoch 8, Iteration 200, Loss: 0.08253451436758041, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.11236736923456192, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.2866883873939514, Number of Images per iteration: 4
Epoch 8, Iteration 500, Loss: 0.1936134546995163, Number of Images per iteration: 4
Epoch 8, Iteration 600, Loss: 0.14221572875976562, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.28001004457473755, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.20412851870059967, Number of Images per iteration: 4
```

```
Epoch 8, Iteration 900, Loss: 0.24272170662879944, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.89s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.068
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.230
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.021
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.089
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.265
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.312
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.314
Epoch 9, Iteration 0, Loss: 0.25805777311325073, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.20472568273544312, Number of Images per iteration: 4
Epoch 9, Iteration 200, Loss: 0.11323998868465424, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.1368573009967804, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.1525489091873169, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.12528850138187408, Number of Images per iteration: 4
Epoch 9, Iteration 600, Loss: 0.013162942603230476, Number of Images per iteration:
Epoch 9, Iteration 700, Loss: 0.14510773122310638, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.21600107848644257, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.08751919865608215, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
```

```
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.069
Average Precision (AP) @[IoU=0.50 | I area= all I maxDets=100] = 0.233
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.020
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.032
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.088
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.266
                (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.317
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.320
Epoch 10, Iteration 0, Loss: 0.2689551115036011, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.11227263510227203, Number of Images per iteration:
Epoch 10, Iteration 200, Loss: 0.1865096539258957, Number of Images per iteration: 4
Epoch 10, Iteration 300, Loss: 0.2384718507528305, Number of Images per iteration: 4
Epoch 10, Iteration 400, Loss: 0.2654653489589691, Number of Images per iteration: 4
Epoch 10, Iteration 500, Loss: 0.19284582138061523, Number of Images per iteration:
Epoch 10, Iteration 600, Loss: 0.13274791836738586, Number of Images per iteration:
Epoch 10, Iteration 700, Loss: 0.18328897655010223, Number of Images per iteration:
Epoch 10, Iteration 800, Loss: 0.11438288539648056, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.2166738361120224, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.069
```

Evaluate annotation type *bbox*

```
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.032
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.088
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.266
Average Recall
                 (AR) @[loU=0.50:0.95 larea= all lmaxDets=100] = 0.316
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.319
Epoch 11, Iteration 0, Loss: 0.06478863209486008, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.06317777931690216, Number of Images per iteration:
Epoch 11, Iteration 200, Loss: 0.08661175519227982, Number of Images per iteration:
Epoch 11, Iteration 300, Loss: 0.0895983949303627, Number of Images per iteration: 4
Epoch 11, Iteration 400, Loss: 0.2917156219482422, Number of Images per iteration: 4
Epoch 11, Iteration 500, Loss: 0.24072757363319397, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.11835028976202011, Number of Images per iteration:
Epoch 11, Iteration 700, Loss: 0.11907917261123657, Number of Images per iteration:
4
Epoch 11, Iteration 800, Loss: 0.2355567067861557, Number of Images per iteration: 4
Epoch 11, Iteration 900, Loss: 0.14988461136817932, Number of Images per iteration:
4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.74s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.069
Average Precision (AP) @[ IoU=0.50
                                       I area = all I maxDets=100 ] = 0.233
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.032
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.088
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.266
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 larea= all lmaxDets=100] = 0.316
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.319
Epoch 12, Iteration 0, Loss: 0.16995707154273987, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.10783974081277847, Number of Images per iteration:
Epoch 12, Iteration 200, Loss: 0.12470424920320511, Number of Images per iteration:
Epoch 12, Iteration 300, Loss: 0.2946482002735138, Number of Images per iteration: 4
Epoch 12, Iteration 400, Loss: 0.17795082926750183, Number of Images per iteration:
Epoch 12, Iteration 500, Loss: 0.20591969788074493, Number of Images per iteration:
Epoch 12, Iteration 600, Loss: 0.04035647585988045, Number of Images per iteration:
Epoch 12, Iteration 700, Loss: 0.24356535077095032, Number of Images per iteration:
Epoch 12, Iteration 800, Loss: 0.2625090479850769, Number of Images per iteration: 4
Epoch 12, Iteration 900, Loss: 0.09105253219604492, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.069
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.234
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.020
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.033
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.088
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.266
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.316
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.318
Average Recall
Epoch 13, Iteration 0, Loss: 0.1498899906873703, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.18998414278030396, Number of Images per iteration:
Epoch 13, Iteration 200, Loss: 0.023552892729640007, Number of Images per
iteration: 4
Epoch 13, Iteration 300, Loss: 0.21297255158424377, Number of Images per iteration:
Epoch 13, Iteration 400, Loss: 0.16490232944488525, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.09039299935102463, Number of Images per iteration:
Epoch 13, Iteration 600, Loss: 0.07068212330341339, Number of Images per iteration:
Epoch 13, Iteration 700, Loss: 0.0639229491353035, Number of Images per iteration: 4
Epoch 13, Iteration 800, Loss: 0.299871563911438, Number of Images per iteration: 4
Epoch 13, Iteration 900, Loss: 0.140051931142807, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.92s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.069
Average Precision (AP) @[IoU=0.50 | larea= all | maxDets=100] = 0.234
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.020
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.033
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.069
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.089
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.266
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.317
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.319
Epoch 14, Iteration 0, Loss: 0.019385753199458122, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.08014647662639618, Number of Images per iteration:
```

Epoch 14, Iteration 200, Loss: 0.11569362878799438, Number of Images per iteration:

```
Epoch 14, Iteration 300, Loss: 0.1667042076587677, Number of Images per iteration: 4
Epoch 14, Iteration 400, Loss: 0.28969451785087585, Number of Images per iteration:
Epoch 14, Iteration 500, Loss: 0.08018254488706589, Number of Images per iteration:
Epoch 14, Iteration 600, Loss: 0.05518557131290436, Number of Images per iteration:
Epoch 14, Iteration 700, Loss: 0.08629322052001953, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.023233916610479355, Number of Images per
iteration: 4
Epoch 14, Iteration 900, Loss: 0.19094425439834595, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.75s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.069
Average Precision (AP) @[ loU=0.50 | l area= all l maxDets=100 ] = 0.235
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.033
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.070
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.088
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.268
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.317
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
                (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.319
Average Recall
momentum: 0.9323368245702841 lr: 0.000993112758358486 weight decay
0.0001298489873419346
Epoch 0, Iteration 0, Loss: 0.9198609590530396, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.13611499965190887, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.10149096697568893, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.17901486158370972, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.12317275255918503, Number of Images per iteration: 4
```

```
Epoch 0, Iteration 500, Loss: 0.15672798454761505, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.15291935205459595, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.22922702133655548, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.04744171351194382, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.28860709071159363, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.14s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=1.06s).
Accumulating evaluation results...
DONE (t=0.22s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.047
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.174
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.013
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.048
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.069
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.229
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.302
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.050
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.305
Epoch 1, Iteration 0, Loss: 0.11775203049182892, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.27247145771980286, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.27928224205970764, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.0511818490922451, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.10679476708173752, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.18267889320850372, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.06465510278940201, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.15106482803821564, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.13899393379688263, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.06156443804502487, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
```

```
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.66s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.065
Average Precision (AP) @[IoU=0.50 | larea= all I maxDets=100] = 0.229
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.017
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.005
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.065
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.083
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.255
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.304
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.306
Epoch 2, Iteration 0, Loss: 0.061025310307741165, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.09248607605695724, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.15222612023353577, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.25560352206230164, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.13592460751533508, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.15563349425792694, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.2047095000743866, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.14123640954494476, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.12290654331445694, Number of Images per iteration: 4
Epoch 2, Iteration 900, Loss: 0.07176912575960159, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.72s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.072
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.249
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.011
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
```

```
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.021
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.073
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.088
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.273
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.316
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.319
Epoch 3, Iteration 0, Loss: 0.11163938790559769, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.10583240538835526, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.11097782850265503, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.20016951858997345, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.3512481451034546, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.378188818693161, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.08762951195240021, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.0759156197309494, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.07170870155096054, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.269756555557251, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.71s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.078
Average Precision (AP) @[ loU=0.50
                                       I area = all I maxDets=100 ] = 0.267
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.015
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.026
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.078
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.098
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.276
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.320
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.050
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.323
Epoch 4, Iteration 0, Loss: 0.06910337507724762, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.146225243806839, Number of Images per iteration: 4
Epoch 4, Iteration 200, Loss: 0.15366631746292114, Number of Images per iteration: 4
```

```
Epoch 4, Iteration 300, Loss: 0.15071213245391846, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.212533101439476, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.34013107419013977, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.28771206736564636, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.014779029414057732, Number of Images per iteration:
Epoch 4, Iteration 800, Loss: 0.12505516409873962, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.01993969827890396, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.80s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.080
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.273
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.033
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.081
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.105
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.273
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.324
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.327
Average Recall
Epoch 5, Iteration 0, Loss: 0.018716339021921158, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.1110721156001091, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.1358882039785385, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.14800000190734863, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.13289110362529755, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.1404939442873001, Number of Images per iteration: 4
Epoch 5, Iteration 600, Loss: 0.018352370709180832, Number of Images per iteration:
Epoch 5, Iteration 700, Loss: 0.1518646627664566, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.11285560578107834, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.21495327353477478, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
```

```
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.70s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.080
Average Precision (AP) @[ IoU=0.50
                                      | area = all | maxDets = 100 | = 0.265
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.032
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.081
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.100
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.279
Average Recall
                 (AR) @[loU=0.50:0.95 larea= all lmaxDets=100] = 0.323
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.326
Average Recall
Epoch 6, Iteration 0, Loss: 0.12711270153522491, Number of Images per iteration: 4
Epoch 6. Iteration 100, Loss: 0.2675178050994873, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.16252239048480988, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.04837128147482872, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.29514896869659424, Number of Images per iteration: 4
Epoch 6, Iteration 500, Loss: 0.1293901950120926, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.10517024993896484, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.12049996107816696, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.11724434047937393, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.17260658740997314, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.71s).
Accumulating evaluation results...
DONE (t=0.16s).
```

```
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.081
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.276
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.014
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.082
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.102
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.279
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.320
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.050
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.323
Average Recall
Epoch 7, Iteration 0, Loss: 0.15692420303821564, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.018735341727733612, Number of Images per iteration:
Epoch 7, Iteration 200, Loss: 0.2907228469848633, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.0637810230255127, Number of Images per iteration: 4
Epoch 7, Iteration 400, Loss: 0.24487905204296112, Number of Images per iteration: 4
Epoch 7, Iteration 500, Loss: 0.14900238811969757, Number of Images per iteration: 4
Epoch 7, Iteration 600, Loss: 0.16288548707962036, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.15607640147209167, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.07034368813037872, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.16628724336624146, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.080
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.272
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets=100 | = 0.020
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.008
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.081
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.102
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.280
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.317
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.050
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.320
Average Recall
Epoch 8, Iteration 0, Loss: 0.1063692718744278, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.22163161635398865, Number of Images per iteration: 4
Epoch 8, Iteration 200, Loss: 0.13410137593746185, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.16357755661010742, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.009360191412270069, Number of Images per iteration:
Epoch 8, Iteration 500, Loss: 0.013086305931210518, Number of Images per iteration:
Epoch 8, Iteration 600, Loss: 0.08172090351581573, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.17699718475341797, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.2345786988735199, Number of Images per iteration: 4
Epoch 8, Iteration 900, Loss: 0.16080833971500397, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
Accumulating evaluation results...
DONE (t=0.31s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.082
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.273
Average Precision (AP) @[ IoU=0.75
                                       I area = all I maxDets=100 ] = 0.022
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.006
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.083
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.104
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.282
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.322
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.013
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.325
Epoch 9, Iteration 0, Loss: 0.10355552285909653, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.015155208297073841, Number of Images per iteration:
Epoch 9, Iteration 200, Loss: 0.1892186999320984, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.16758331656455994, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.0938132107257843, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.24043701589107513, Number of Images per iteration: 4
```

```
Epoch 9, Iteration 600, Loss: 0.27367737889289856, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.17853988707065582, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.0699961930513382, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.06435157358646393, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.083
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.278
Average Precision (AP) @[ IoU=0.75 | I area= all I maxDets=100 ] = 0.022
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.013
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.084
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.105
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.283
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.321
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.324
Epoch 10, Iteration 0, Loss: 0.15012948215007782, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.17819136381149292, Number of Images per iteration:
Epoch 10, Iteration 200, Loss: 0.1890484094619751, Number of Images per iteration: 4
Epoch 10, Iteration 300, Loss: 0.22640280425548553, Number of Images per iteration:
Epoch 10, Iteration 400, Loss: 0.09604834765195847, Number of Images per iteration:
Epoch 10, Iteration 500, Loss: 0.10086622834205627, Number of Images per iteration:
Epoch 10, Iteration 600, Loss: 0.08050335198640823, Number of Images per iteration:
Epoch 10, Iteration 700, Loss: 0.16210536658763885, Number of Images per iteration:
Epoch 10, Iteration 800, Loss: 0.11890576034784317, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.07928727567195892, Number of Images per iteration:
```

```
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.68s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.082
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.275
Average Precision (AP) @[ IoU=0.75 | I area= all I maxDets=100 ] = 0.021
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.013
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.083
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.104
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.281
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.319
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.025
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.322
Average Recall
Epoch 11, Iteration 0, Loss: 0.1667463779449463, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.1157381683588028, Number of Images per iteration: 4
Epoch 11, Iteration 200, Loss: 0.07769706845283508, Number of Images per iteration:
Epoch 11, Iteration 300, Loss: 0.07999233156442642, Number of Images per iteration:
Epoch 11, Iteration 400, Loss: 0.09794928133487701, Number of Images per iteration:
Epoch 11, Iteration 500, Loss: 0.13079603016376495, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.2031281292438507, Number of Images per iteration: 4
Epoch 11, Iteration 700, Loss: 0.09249600768089294, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.08259395509958267, Number of Images per iteration:
Epoch 11, Iteration 900, Loss: 0.12124917656183243, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
```

```
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.67s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.082
Average Precision (AP) @[loU=0.75 | larea= all | maxDets=100] = 0.021
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.006
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.083
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.104
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.283
Average Recall
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.319
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.013
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.322
Average Recall
Epoch 12, Iteration 0, Loss: 0.24028471112251282, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.13785012066364288, Number of Images per iteration:
Epoch 12, Iteration 200, Loss: 0.0685957819223404, Number of Images per iteration: 4
Epoch 12, Iteration 300, Loss: 0.11246631294488907, Number of Images per iteration:
Epoch 12, Iteration 400, Loss: 0.014071093872189522, Number of Images per
iteration: 4
Epoch 12, Iteration 500, Loss: 0.014932021498680115, Number of Images per iteration:
Epoch 12, Iteration 600, Loss: 0.1015016958117485, Number of Images per iteration: 4
Epoch 12, Iteration 700, Loss: 0.18762807548046112, Number of Images per iteration:
Epoch 12, Iteration 800, Loss: 0.08105911314487457, Number of Images per iteration:
Epoch 12, Iteration 900, Loss: 0.1131226196885109, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
```

```
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.68s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.082
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.273
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.021
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.006
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.082
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.104
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.282
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.320
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.013
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.323
Epoch 13, Iteration 0, Loss: 0.1782926321029663, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.09932837635278702, Number of Images per iteration:
Epoch 13, Iteration 200, Loss: 0.28718239068984985, Number of Images per iteration:
Epoch 13, Iteration 300, Loss: 0.26345860958099365, Number of Images per iteration:
Epoch 13, Iteration 400, Loss: 0.22000691294670105, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.00965258851647377, Number of Images per iteration:
Epoch 13, Iteration 600, Loss: 0.16948725283145905, Number of Images per iteration:
Epoch 13, Iteration 700, Loss: 0.2285212129354477, Number of Images per iteration: 4
Epoch 13, Iteration 800, Loss: 0.011691034771502018, Number of Images per iteration:
Epoch 13, Iteration 900, Loss: 0.06777842342853546, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
```

```
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.082
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.274
Average Precision (AP) @[ loU=0.75 | larea= all I maxDets=100 ] = 0.021
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.006
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.082
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.104
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.282
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.319
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.013
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.323
Epoch 14, Iteration 0, Loss: 0.1735261082649231, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.1375901997089386, Number of Images per iteration: 4
Epoch 14, Iteration 200, Loss: 0.26365190744400024, Number of Images per iteration:
Epoch 14, Iteration 300, Loss: 0.1317666471004486, Number of Images per iteration: 4
Epoch 14, Iteration 400, Loss: 0.108894944190979, Number of Images per iteration: 4
Epoch 14, Iteration 500, Loss: 0.08639602363109589, Number of Images per iteration:
Epoch 14, Iteration 600, Loss: 0.08586769551038742, Number of Images per iteration:
Epoch 14, Iteration 700, Loss: 0.09068283438682556, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.15088683366775513, Number of Images per iteration:
Epoch 14, Iteration 900, Loss: 0.04078163206577301, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.67s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.082
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.274
Average Precision (AP) @[ loU=0.75
                                       I area = all I maxDets=100 ] = 0.021
```

```
Average Precision (AP) @[ IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.006
Average Precision (AP) @[IoU=0.50:0.95 | area= large | maxDets=100] = 0.082
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.105
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.283
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.318
Average Recall
Average Recall
                  (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.013
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.321
Average Recall
momentum: 0.9174822472206019 lr: 0.000989027696328659 weight decay
0.00010426372473609571
Epoch 0, Iteration 0, Loss: 0.5731488466262817, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.09319350868463516, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.12490751594305038, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.26760610938072205, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.1335945725440979, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.016478518024086952, Number of Images per iteration:
Epoch 0, Iteration 600, Loss: 0.18452654778957367, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.0951339602470398, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.17218203842639923, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.28559932112693787, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.14s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.89s).
Accumulating evaluation results...
DONE (t=0.19s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all I maxDets=100 ] = 0.044
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.162
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.004
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.045
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.071
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.216
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.276
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.000
```

```
(AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.279
Average Recall
Epoch 1, Iteration 0, Loss: 0.12313538789749146, Number of Images per iteration: 4
Epoch 1, Iteration 100, Loss: 0.08462723344564438, Number of Images per iteration: 4
Epoch 1, Iteration 200, Loss: 0.23767319321632385, Number of Images per iteration: 4
Epoch 1, Iteration 300, Loss: 0.31513041257858276, Number of Images per iteration: 4
Epoch 1, Iteration 400, Loss: 0.15860730409622192, Number of Images per iteration: 4
Epoch 1, Iteration 500, Loss: 0.06920352578163147, Number of Images per iteration: 4
Epoch 1, Iteration 600, Loss: 0.17410223186016083, Number of Images per iteration: 4
Epoch 1, Iteration 700, Loss: 0.23298193514347076, Number of Images per iteration: 4
Epoch 1, Iteration 800, Loss: 0.09033558517694473, Number of Images per iteration: 4
Epoch 1, Iteration 900, Loss: 0.3590528666973114, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.68s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.056
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.205
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.001
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.056
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.082
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.241
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.282
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.062
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.284
Average Recall
Epoch 2, Iteration 0, Loss: 0.23734991252422333, Number of Images per iteration: 4
Epoch 2, Iteration 100, Loss: 0.09809713810682297, Number of Images per iteration: 4
Epoch 2, Iteration 200, Loss: 0.10108190029859543, Number of Images per iteration: 4
Epoch 2, Iteration 300, Loss: 0.12575645744800568, Number of Images per iteration: 4
Epoch 2, Iteration 400, Loss: 0.17136172950267792, Number of Images per iteration: 4
Epoch 2, Iteration 500, Loss: 0.16059644520282745, Number of Images per iteration: 4
Epoch 2, Iteration 600, Loss: 0.17068858444690704, Number of Images per iteration: 4
Epoch 2, Iteration 700, Loss: 0.25686535239219666, Number of Images per iteration: 4
Epoch 2, Iteration 800, Loss: 0.018268808722496033, Number of Images per iteration:
```

```
Epoch 2, Iteration 900, Loss: 0.1460094004869461, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.72s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.066
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.010
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.005
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.067
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.087
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.262
Average Recall
                (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.312
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.314
Epoch 3, Iteration 0, Loss: 0.05721490457653999, Number of Images per iteration: 4
Epoch 3, Iteration 100, Loss: 0.16487957537174225, Number of Images per iteration: 4
Epoch 3, Iteration 200, Loss: 0.05455544963479042, Number of Images per iteration: 4
Epoch 3, Iteration 300, Loss: 0.0986781194806099, Number of Images per iteration: 4
Epoch 3, Iteration 400, Loss: 0.12534058094024658, Number of Images per iteration: 4
Epoch 3, Iteration 500, Loss: 0.07342057675123215, Number of Images per iteration: 4
Epoch 3, Iteration 600, Loss: 0.09296197444200516, Number of Images per iteration: 4
Epoch 3, Iteration 700, Loss: 0.26984158158302307, Number of Images per iteration: 4
Epoch 3, Iteration 800, Loss: 0.0948171615600586, Number of Images per iteration: 4
Epoch 3, Iteration 900, Loss: 0.12608088552951813, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
```

```
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.073
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.256
                                       | area = all | maxDets = 100 | = 0.016
Average Precision (AP) @[ IoU=0.75
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.013
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.074
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.085
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.275
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.319
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.321
Average Recall
Epoch 4, Iteration 0, Loss: 0.1636282056570053, Number of Images per iteration: 4
Epoch 4, Iteration 100, Loss: 0.16457770764827728, Number of Images per iteration: 4
Epoch 4, Iteration 200, Loss: 0.027688756585121155, Number of Images per iteration:
Epoch 4, Iteration 300, Loss: 0.08025136590003967, Number of Images per iteration: 4
Epoch 4, Iteration 400, Loss: 0.10115794837474823, Number of Images per iteration: 4
Epoch 4, Iteration 500, Loss: 0.07359074801206589, Number of Images per iteration: 4
Epoch 4, Iteration 600, Loss: 0.06428074091672897, Number of Images per iteration: 4
Epoch 4, Iteration 700, Loss: 0.15610599517822266, Number of Images per iteration: 4
Epoch 4, Iteration 800, Loss: 0.24123048782348633, Number of Images per iteration: 4
Epoch 4, Iteration 900, Loss: 0.17120780050754547, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.076
Average Precision (AP) @[ loU=0.50
                                       I area = all I maxDets=100 1 = 0.268
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.013
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.090
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.077
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.099
Average Recall
```

```
(AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.280
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets=100 ] = 0.331
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.334
Epoch 5, Iteration 0, Loss: 0.21192824840545654, Number of Images per iteration: 4
Epoch 5, Iteration 100, Loss: 0.15453021228313446, Number of Images per iteration: 4
Epoch 5, Iteration 200, Loss: 0.09622826427221298, Number of Images per iteration: 4
Epoch 5, Iteration 300, Loss: 0.281438946723938, Number of Images per iteration: 4
Epoch 5, Iteration 400, Loss: 0.17853520810604095, Number of Images per iteration: 4
Epoch 5, Iteration 500, Loss: 0.058490853756666183, Number of Images per iteration:
Epoch 5, Iteration 600, Loss: 0.26247134804725647, Number of Images per iteration: 4
Epoch 5, Iteration 700, Loss: 0.2078755497932434, Number of Images per iteration: 4
Epoch 5, Iteration 800, Loss: 0.18619555234909058, Number of Images per iteration: 4
Epoch 5, Iteration 900, Loss: 0.08642973005771637, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.70s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.075
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.268
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.011
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.077
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.076
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.097
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.273
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.318
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.320
Epoch 6, Iteration 0, Loss: 0.021163210272789, Number of Images per iteration: 4
Epoch 6, Iteration 100, Loss: 0.11168888956308365, Number of Images per iteration: 4
Epoch 6, Iteration 200, Loss: 0.153727725148201, Number of Images per iteration: 4
Epoch 6, Iteration 300, Loss: 0.18596826493740082, Number of Images per iteration: 4
Epoch 6, Iteration 400, Loss: 0.01656876690685749, Number of Images per iteration: 4
```

```
Epoch 6, Iteration 500, Loss: 0.2799154222011566, Number of Images per iteration: 4
Epoch 6, Iteration 600, Loss: 0.11019055545330048, Number of Images per iteration: 4
Epoch 6, Iteration 700, Loss: 0.16635505855083466, Number of Images per iteration: 4
Epoch 6, Iteration 800, Loss: 0.11149363219738007, Number of Images per iteration: 4
Epoch 6, Iteration 900, Loss: 0.08880894631147385, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.16s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.68s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.076
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.268
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.012
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.077
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.077
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.099
Average Recall
Average Recall
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.276
                 (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.314
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.075
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.317
Epoch 7, Iteration 0, Loss: 0.1789618283510208, Number of Images per iteration: 4
Epoch 7, Iteration 100, Loss: 0.06029219180345535, Number of Images per iteration: 4
Epoch 7, Iteration 200, Loss: 0.1985490471124649, Number of Images per iteration: 4
Epoch 7, Iteration 300, Loss: 0.3510795831680298, Number of Images per iteration: 4
Epoch 7, Iteration 400, Loss: 0.15206840634346008, Number of Images per iteration: 4
Epoch 7, Iteration 500, Loss: 0.198627308011055, Number of Images per iteration: 4
Epoch 7, Iteration 600, Loss: 0.1755695641040802, Number of Images per iteration: 4
Epoch 7, Iteration 700, Loss: 0.23113811016082764, Number of Images per iteration: 4
Epoch 7, Iteration 800, Loss: 0.3933771848678589, Number of Images per iteration: 4
Epoch 7, Iteration 900, Loss: 0.14759249985218048, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.01s)
```

```
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.82s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.077
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.273
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.012
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.090
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.078
                 (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.101
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.280
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.316
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.318
Epoch 8, Iteration 0, Loss: 0.2676364481449127, Number of Images per iteration: 4
Epoch 8, Iteration 100, Loss: 0.22640341520309448, Number of Images per iteration: 4
Epoch 8, Iteration 200, Loss: 0.1188172772526741, Number of Images per iteration: 4
Epoch 8, Iteration 300, Loss: 0.05794829502701759, Number of Images per iteration: 4
Epoch 8, Iteration 400, Loss: 0.06269237399101257, Number of Images per iteration: 4
Epoch 8, Iteration 500, Loss: 0.13801886141300201, Number of Images per iteration: 4
Epoch 8, Iteration 600, Loss: 0.10809063911437988, Number of Images per iteration: 4
Epoch 8, Iteration 700, Loss: 0.05954001471400261, Number of Images per iteration: 4
Epoch 8, Iteration 800, Loss: 0.04495161399245262, Number of Images per iteration: 4
Epoch 8, Iteration 900, Loss: 0.24692630767822266, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.01s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.63s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all | maxDets=100] = 0.077
Average Precision (AP) @[ loU=0.50
                                       | area = all | maxDets = 100 | = 0.270
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.013
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000
```

creating index...

```
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.090
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.077
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.103
Average Recall
                  (AR) @[loU=0.50:0.95 | area= all | maxDets= 10] = 0.279
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.308
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.310
Epoch 9, Iteration 0, Loss: 0.29075706005096436, Number of Images per iteration: 4
Epoch 9, Iteration 100, Loss: 0.09843224287033081, Number of Images per iteration: 4
Epoch 9, Iteration 200, Loss: 0.22035272419452667, Number of Images per iteration: 4
Epoch 9, Iteration 300, Loss: 0.07589863240718842, Number of Images per iteration: 4
Epoch 9, Iteration 400, Loss: 0.08803356438875198, Number of Images per iteration: 4
Epoch 9, Iteration 500, Loss: 0.012385984882712364, Number of Images per iteration:
Epoch 9, Iteration 600, Loss: 0.3024640679359436, Number of Images per iteration: 4
Epoch 9, Iteration 700, Loss: 0.17670881748199463, Number of Images per iteration: 4
Epoch 9, Iteration 800, Loss: 0.13086049258708954, Number of Images per iteration: 4
Epoch 9, Iteration 900, Loss: 0.13152019679546356, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.76s).
Accumulating evaluation results...
DONE (t=0.17s).
Average Precision (AP) @[IoU=0.50:0.95 | area= all I maxDets=100] = 0.078
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.271
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 ] = 0.013
Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.090
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.079
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.101
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.283
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.325
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.327
Average Recall
Epoch 10, Iteration 0, Loss: 0.2773897349834442, Number of Images per iteration: 4
Epoch 10, Iteration 100, Loss: 0.09988927096128464, Number of Images per iteration:
```

```
Epoch 10, Iteration 200, Loss: 0.19353237748146057, Number of Images per iteration:
Epoch 10, Iteration 300, Loss: 0.12041539698839188, Number of Images per iteration:
Epoch 10, Iteration 400, Loss: 0.13436470925807953, Number of Images per iteration:
Epoch 10, Iteration 500, Loss: 0.13693581521511078, Number of Images per iteration:
Epoch 10, Iteration 600, Loss: 0.12351683527231216, Number of Images per iteration:
Epoch 10, Iteration 700, Loss: 0.16727487742900848, Number of Images per iteration:
Epoch 10, Iteration 800, Loss: 0.24968835711479187, Number of Images per iteration:
Epoch 10, Iteration 900, Loss: 0.27384066581726074, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.70s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.078
Average Precision (AP) @[loU=0.50 | larea= all | maxDets=100] = 0.270
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.013
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.090
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.078
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.102
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.283
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.317
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.320
Epoch 11, Iteration 0, Loss: 0.32074907422065735, Number of Images per iteration: 4
Epoch 11, Iteration 100, Loss: 0.11965468525886536, Number of Images per iteration:
Epoch 11, Iteration 200, Loss: 0.1513829082250595, Number of Images per iteration: 4
```

```
Epoch 11, Iteration 300, Loss: 0.30264177918434143, Number of Images per iteration:
Epoch 11, Iteration 400, Loss: 0.1957179605960846, Number of Images per iteration: 4
Epoch 11, Iteration 500, Loss: 0.14421537518501282, Number of Images per iteration:
Epoch 11, Iteration 600, Loss: 0.11143171787261963, Number of Images per iteration:
Epoch 11, Iteration 700, Loss: 0.24827100336551666, Number of Images per iteration:
Epoch 11, Iteration 800, Loss: 0.0588979497551918, Number of Images per iteration: 4
Epoch 11, Iteration 900, Loss: 0.09307420998811722, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.17s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.69s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.079
Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.013
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.090
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.079
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.102
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.282
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.318
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.320
Average Recall
Epoch 12, Iteration 0, Loss: 0.16868005692958832, Number of Images per iteration: 4
Epoch 12, Iteration 100, Loss: 0.1175670176744461, Number of Images per iteration: 4
Epoch 12, Iteration 200, Loss: 0.09552585333585739, Number of Images per iteration:
Epoch 12, Iteration 300, Loss: 0.31152817606925964, Number of Images per iteration:
Epoch 12, Iteration 400, Loss: 0.015442739240825176, Number of Images per
iteration: 4
Epoch 12, Iteration 500, Loss: 0.024793004617094994, Number of Images per
```

```
iteration: 4
Epoch 12, Iteration 600, Loss: 0.17816729843616486, Number of Images per iteration:
Epoch 12, Iteration 700, Loss: 0.03316105157136917, Number of Images per iteration:
Epoch 12, Iteration 800, Loss: 0.25046199560165405, Number of Images per iteration:
Epoch 12, Iteration 900, Loss: 0.16075021028518677, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.85s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[ IoU=0.50:0.95 | area= all | maxDets=100 ] = 0.079
Average Precision (AP) @[ IoU=0.50
                                       | area = all | maxDets = 100 | = 0.270
Average Precision (AP) @[ IoU=0.75
                                       | area = all | maxDets = 100 | = 0.013
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.090
Average Precision (AP) @[ IoU=0.50:0.95 | area= large | maxDets=100 ] = 0.079
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.102
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.284
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.318
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
Average Recall
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.321
Epoch 13, Iteration 0, Loss: 0.15115635097026825, Number of Images per iteration: 4
Epoch 13, Iteration 100, Loss: 0.10998306423425674, Number of Images per iteration:
Epoch 13, Iteration 200, Loss: 0.1996145248413086, Number of Images per iteration: 4
Epoch 13, Iteration 300, Loss: 0.16244514286518097, Number of Images per iteration:
Epoch 13, Iteration 400, Loss: 0.15367326140403748, Number of Images per iteration:
Epoch 13, Iteration 500, Loss: 0.10349491238594055, Number of Images per iteration:
Epoch 13, Iteration 600, Loss: 0.2439776360988617, Number of Images per iteration: 4
Epoch 13, Iteration 700, Loss: 0.21004542708396912, Number of Images per iteration:
```

```
Epoch 13, Iteration 800, Loss: 0.21932978928089142, Number of Images per iteration:
Epoch 13, Iteration 900, Loss: 0.13874122500419617, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.68s).
Accumulating evaluation results...
DONE (t=0.15s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.079
Average Precision (AP) @[ loU=0.50
                                      | area = all | maxDets = 100 | = 0.270
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[ IoU=0.50:0.95 | area=medium | maxDets=100 ] = 0.090
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.080
                (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.102
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.285
                (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.318
Average Recall
Average Recall
                (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                 (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.320
Epoch 14, Iteration 0, Loss: 0.15222187340259552, Number of Images per iteration: 4
Epoch 14, Iteration 100, Loss: 0.1876404583454132, Number of Images per iteration: 4
Epoch 14, Iteration 200, Loss: 0.12468323856592178, Number of Images per iteration:
Epoch 14, Iteration 300, Loss: 0.21914991736412048, Number of Images per iteration:
Epoch 14, Iteration 400, Loss: 0.06584127992391586, Number of Images per iteration:
Epoch 14, Iteration 500, Loss: 0.01715126819908619, Number of Images per iteration:
Epoch 14, Iteration 600, Loss: 0.21482662856578827, Number of Images per iteration:
Epoch 14, Iteration 700, Loss: 0.04434136301279068, Number of Images per iteration:
Epoch 14, Iteration 800, Loss: 0.04531977325677872, Number of Images per iteration:
```

```
Epoch 14, Iteration 900, Loss: 0.06854288280010223, Number of Images per iteration:
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.02s)
creating index...
index created!
Running per image evaluation...
Evaluate annotation type *bbox*
DONE (t=0.68s).
Accumulating evaluation results...
DONE (t=0.16s).
Average Precision (AP) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.079
Average Precision (AP) @[IoU=0.50 | larea= all I maxDets=100] = 0.269
Average Precision (AP) @[ loU=0.75
                                       | area = all | maxDets = 100 | = 0.013
Average Precision (AP) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Precision (AP) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.090
Average Precision (AP) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.080
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 1 ] = 0.102
Average Recall
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets= 10 ] = 0.284
Average Recall
                 (AR) @[ loU=0.50:0.95 | area= all | maxDets=100 ] = 0.318
                  (AR) @[ loU=0.50:0.95 | area= small | maxDets=100 ] = -1.000
Average Recall
                  (AR) @[ loU=0.50:0.95 | area=medium | maxDets=100 ] = 0.087
Average Recall
                  (AR) @[ loU=0.50:0.95 | area= large | maxDets=100 ] = 0.320
Average Recall
momentum: 0.8632666786876741 lr: 0.0004918126134835527 weight decay
0.0008576400270403509
Epoch 0, Iteration 0, Loss: 0.6541809439659119, Number of Images per iteration: 4
Epoch 0, Iteration 100, Loss: 0.19722452759742737, Number of Images per iteration: 4
Epoch 0, Iteration 200, Loss: 0.11791906505823135, Number of Images per iteration: 4
Epoch 0, Iteration 300, Loss: 0.08358268439769745, Number of Images per iteration: 4
Epoch 0, Iteration 400, Loss: 0.19037027657032013, Number of Images per iteration: 4
Epoch 0, Iteration 500, Loss: 0.14836442470550537, Number of Images per iteration: 4
Epoch 0, Iteration 600, Loss: 0.1957915872335434, Number of Images per iteration: 4
Epoch 0, Iteration 700, Loss: 0.10765718668699265, Number of Images per iteration: 4
Epoch 0, Iteration 800, Loss: 0.11996622383594513, Number of Images per iteration: 4
Epoch 0, Iteration 900, Loss: 0.09620008617639542, Number of Images per iteration: 4
loading annotations into memory...
Done (t=0.00s)
creating index...
index created!
Loading and preparing results...
DONE (t=0.15s)
creating index...
```

```
index created!
```

Running per image evaluation...

Evaluate annotation type *bbox*

DONE (t=1.01s).

Accumulating evaluation results...

DONE (t=0.20s).

Average Precision (AP) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.021

Average Precision (AP) @[IoU=0.50 | l area= all I maxDets=100] = 0.082

Average Precision (AP) @[IoU=0.75 | larea= all I maxDets=100] = 0.002

Average Precision (AP) @[IoU=0.50:0.95 | area= small | maxDets=100] = -1.000

Average Precision (AP) @[loU=0.50:0.95 | area=medium | maxDets=100] = 0.000

Average Precision (AP) @[loU=0.50:0.95 | area= large | maxDets=100] = 0.021

Average Recall (AR) @[loU=0.50:0.95 | area= all | maxDets= 1] = 0.046

Average Recall (AR) @[IoU=0.50:0.95 | area= all | maxDets= 10] = 0.164

Average Recall (AR) @[loU=0.50:0.95 | area= all | maxDets=100] = 0.230

Average Recall (AR) @[loU=0.50:0.95 | area= small | maxDets=100] = -1.000

Average Recall (AR) @[IoU=0.50:0.95 | area=medium | maxDets=100] = 0.000

Average Recall (AR) @[loU=0.50:0.95 | area= large | maxDets=100] = 0.232

An exception occurred:

Best trial:

Value: 0.08361101664891836

Params:

lr: 0.0005054015950232658

momentum: 0.9586438446393546

weight_decay: 0.0004839008617143593