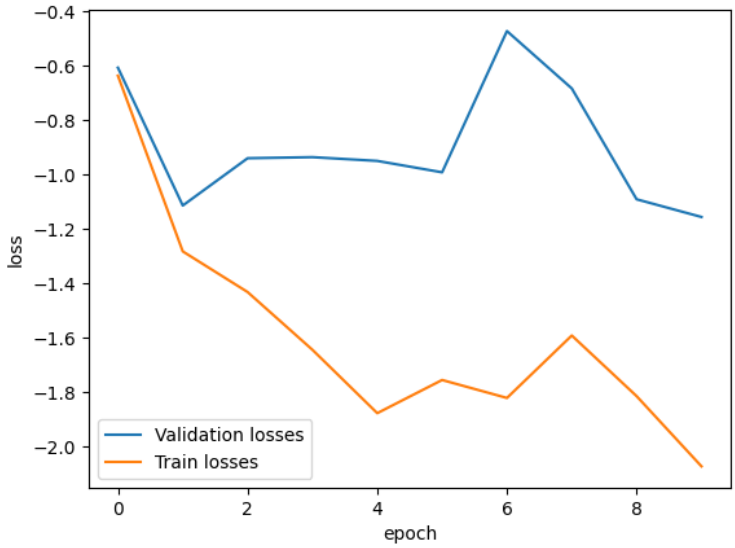
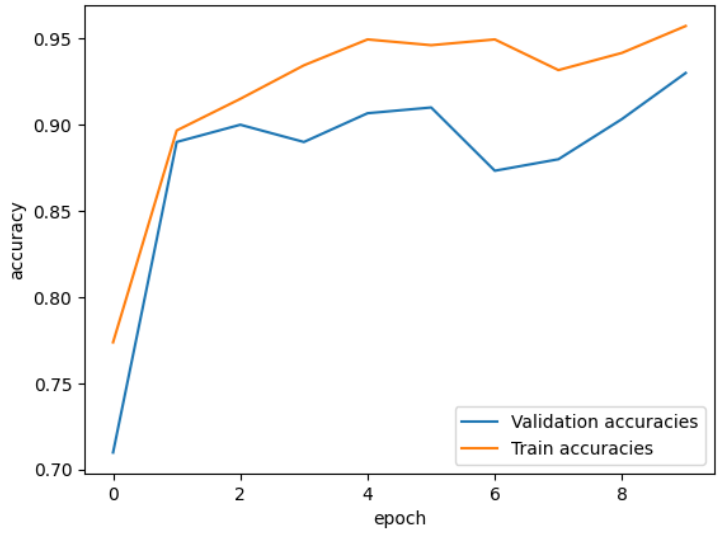
Report on the completion of the eleventh task.

1. **The purpose of the task.**
   The main goal of this task is to fine tune the pretrained model on the collected dataset of motorcycles and try to get a good metrics on it. Also try to implement my own CNN and train it on the same data.
2. **Train the convNeXt base model on the collected dataset.**
   a) **Loss curve**



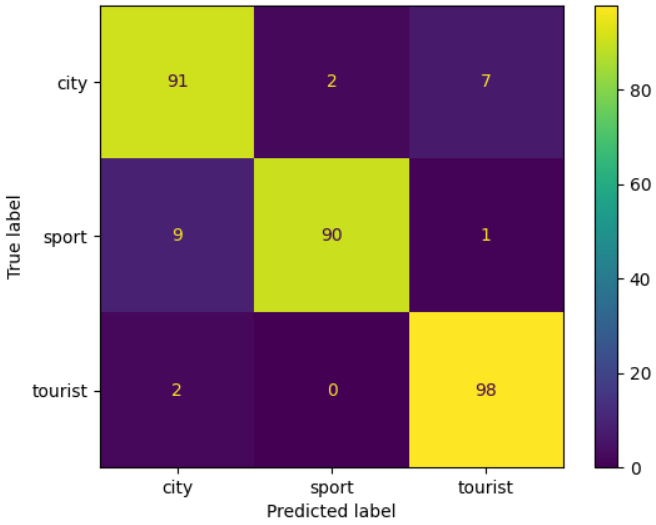
   b) **Accuracy curve**



c) Classification report

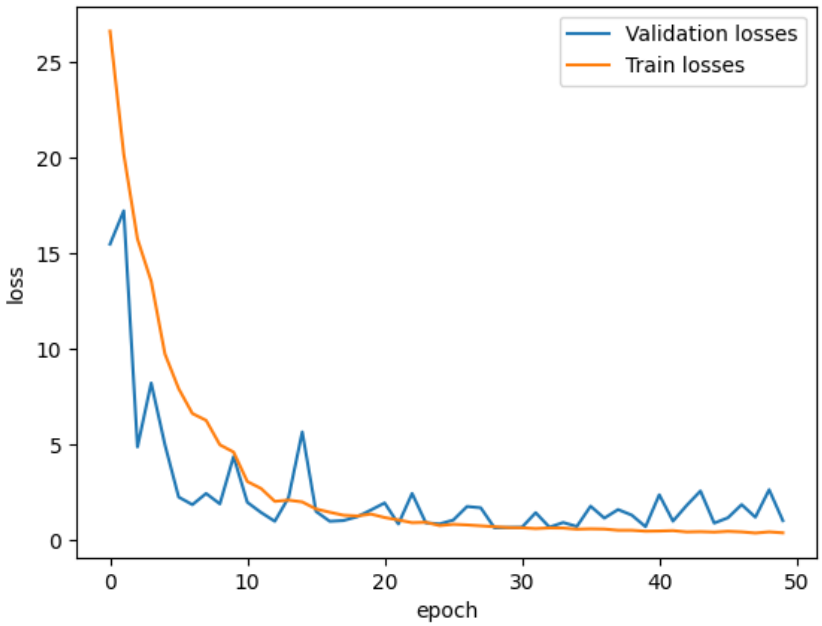
```
Training complete in 7m 38s
Best val Acc: 0.930000
              precision    recall  f1-score   support

        city       0.89      0.91      0.90       100
       sport       0.98      0.90      0.94       100
     tourist       0.92      0.98      0.95       100

    accuracy                           0.93       300
   macro avg       0.93      0.93      0.93       300
weighted avg       0.93      0.93      0.93       300
```

d) Confusion matrix

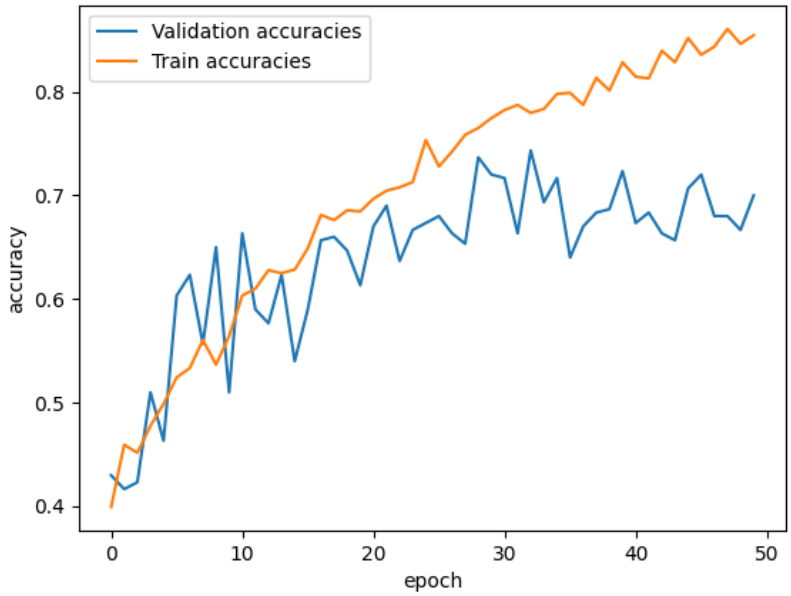


3. Train my own CNN with 4 conv layers, 3 maxpools and a classifier.

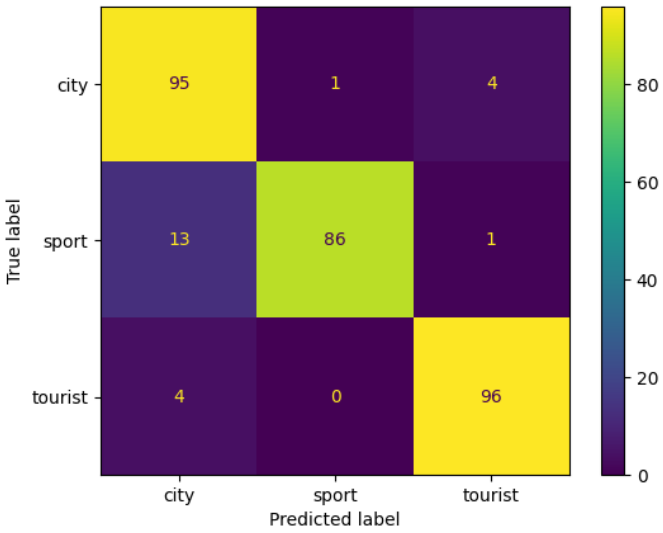
a) Loss curve



b) Accuracy curve



c) Confusion matrix



4. Conclusion.

-From the first model we can make a conclusion that it can give a good performance on the test dataset with accuracy of around 90%. The confusion matrix shows that model sometimes confuses sportbikes as city ones, but it almost never fails when predicting sport or tourist bikes. The loss curve wasn't that good, so here we probably need more epochs to get better, but the general performance of that model is well.

- The second model probably needs more epochs to train and get better accuracy on the test set because test loss still continued to fall.