Task 1a:

For this task we used the KFold and Ridge class from the sklearn.model\_selection and sklearn.linear\_model module. With the help of KFold() we created the 10 splits of our data – 9 for training and 1 for validation and with Ridge() one can easily perform a ridge regression. For every lambda given we performed the 10 fold cross-validation. This means performing Ridge-regression 10x with the training folds and validate it 10x on the given validation fold. The final RMSE value of the chosen lambda is then the average of the 10 different validations. As mentioned in the task description no feature scaling/transformation should be used, therefore also the option fit\_intercept=False was set in the Ridge() class. The final score was in the order of 10^-11 which is numerically seen 0.