To illustrate the relationship between regularization, training error, and testing error, I use the method:

1. Select the dataset, 'Boston' in 'MASS' package, which is a famous dataset for regression. The housing price will be the target values.
2. Decide the dataset to training part and testing part.
3. Use training part to train the model using Ridge Regression.
4. Predict the training part with our regression model, and calculate the MSE of error between predictions and real housing price.
5. Predict the testing part with our regression model, and calculate the MSE of error between predictions and real housing price.
6. Repeat step 3,4,5 many times for each time regularization parameter lambda to be one of [0.001, 0.01, 0.05, 0.1, 0.5, 1, 10, 100, 1000, 100000, 1000000, 10000000]
7. Plot the training error and testing error with different regularization parameter, and get the visualization.
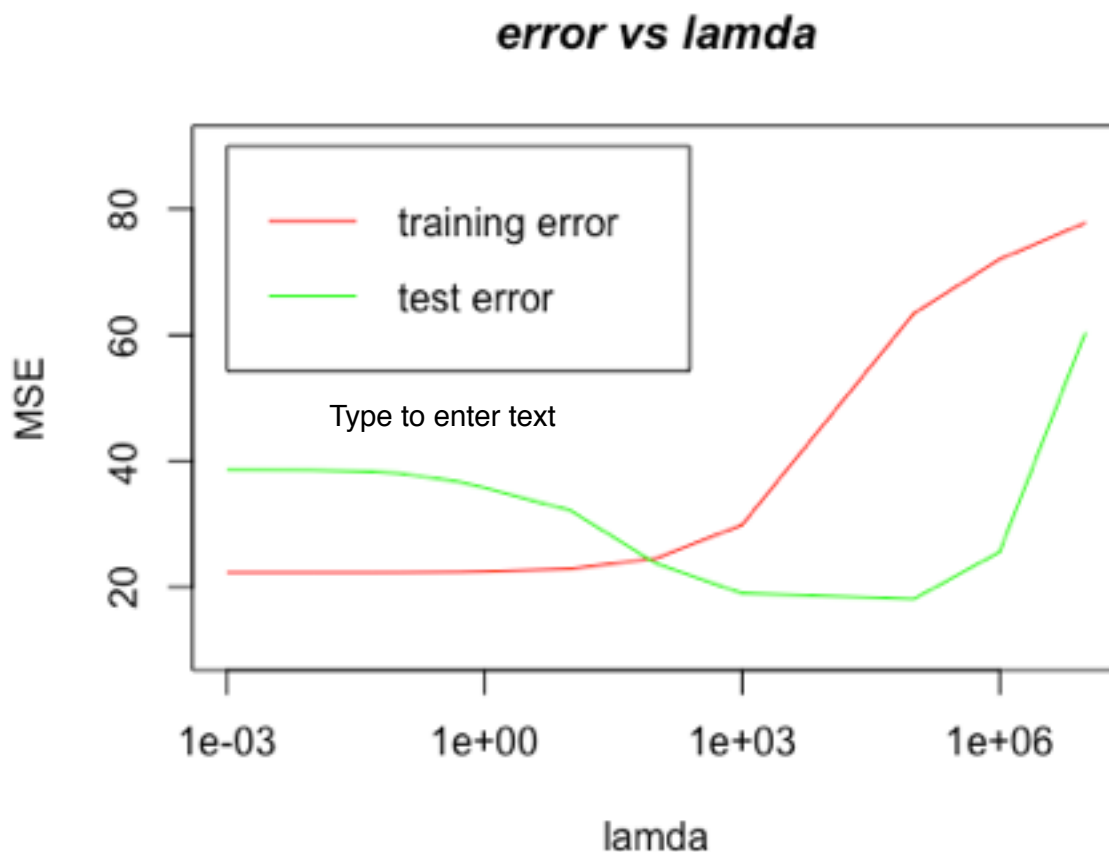
We can see that:
1. Training error is increasing with lambda increases;
2. Testing error is decreasing with lambda increases at the beginning, and at some point, the test error is lowest and after that point, test error goes up again.

Conclusion:
At the beginning, our model is overfitting. With regularization parameter increases, we get a better model for this problem. However, when the lambda continues to increase. The model meets bias problem. The model is not flexible enough to describe this problem.