Project3

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Project 3

Problem 1

This problem is to get some codes to perform the support vector data description (SVDD)

a. Write an ***R*** function to perform the SVDD.

b. Write an *R* function to perform the prediction of a new observation using SVDD.

c. Write an *R* function for detecting potential outliers for a new set of oservations, along with the upper threshold.

Problem 2

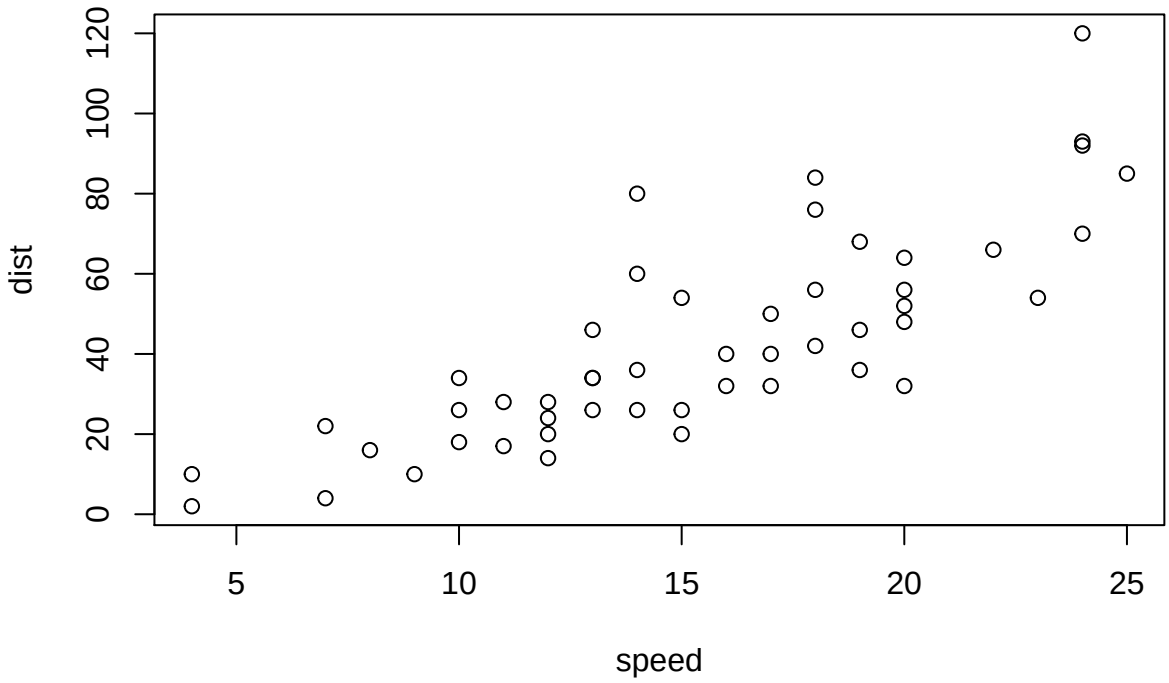
The goal of problem 2 is to perform the support vector data description (SVDD) using the Mahalanobis kernel function. We will simplify the problem by using the identity function for g.

(a) Write an *R* function to compute the Mahalanobis kernel distance $\boldsymbol{d_g(x)}$

(b) Write an *R* function to perform the Mahalanobis kernel SVDD.

(c) Write an *R* function to perform the prediction of a new observation using the Mahalanobis kernel SVDD.

(d) Write an *R* function for detecting potential outliers for a new set of oservations, along with the upper threshold.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