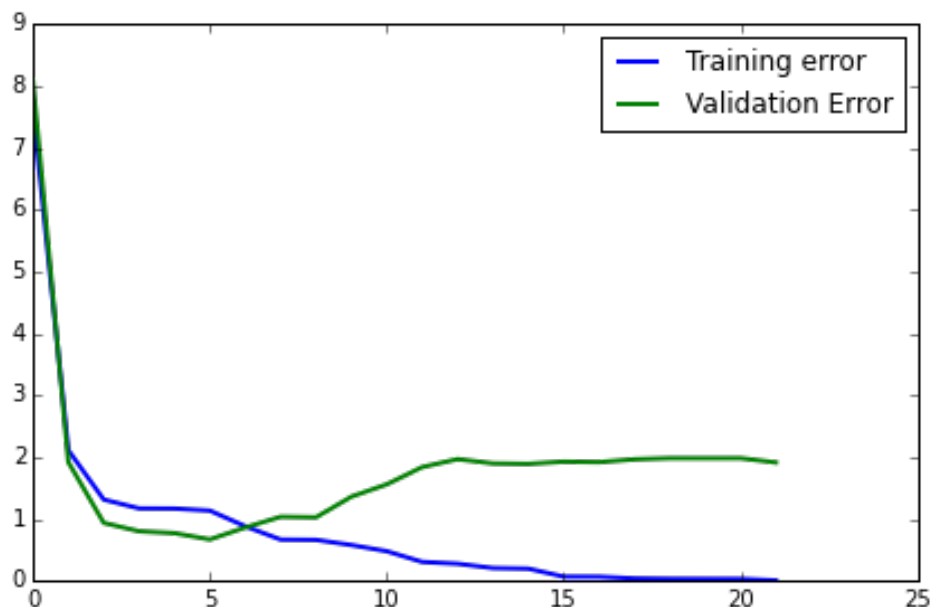# COMP 2019 Workbook Exercises Week 8 – ML Validation

Question 1

Suppose that models M0-M21 have been fitted to training data. The learning curve showing the models' errors on training set and development (validation) set are shown in the figure below.

For each of the 21 models, describe whether the model suffers from underfitting or overfitting, and suggest potential remedies. You can group models that exhibit similar errors to reduce the number of cases that you shall consider.

Question 2

A polynomial regression model shall be fitted that predicts the amount (in grams) of chocolate children would eat in one day based on their age, weight, and gender. You have labelled data of 45 children available.

You do not know upfront which degree of polynomial will work best. Consider polynomials of degree 0,1,2,3.

Outline the training approach you would adopt for finding a good model.