# Part I - Variable Subset Selection
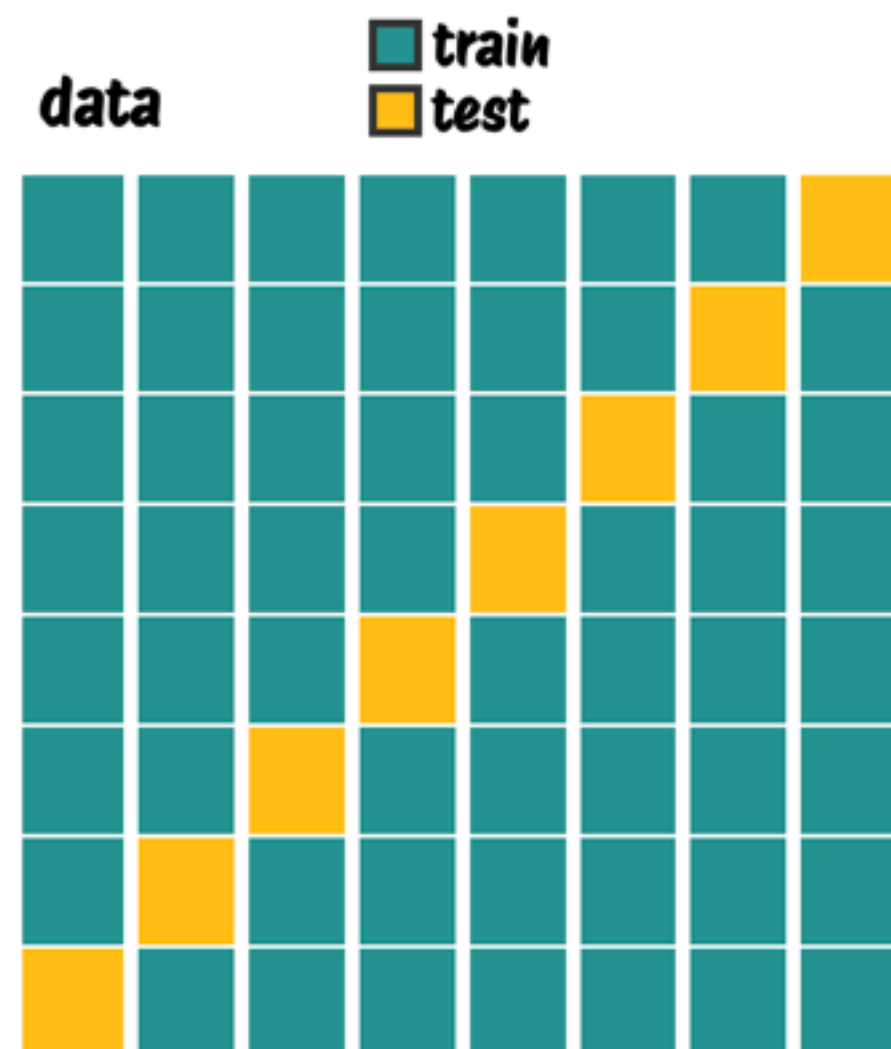
# Model Selection Criteria: Validation by Prediction Error

**Last week:** how to use cross validation to choose a set of predictors
by directly estimate prediction error using cross-validation techniques

$$\text{e.g.} \quad \text{MSE} = \frac{\text{RSS}}{n} \qquad \text{RMSE} = \sqrt{\frac{\text{RSS}}{n}} \qquad R^2 = 1 - \frac{\text{RSS}}{\text{TSS}}$$



**Now:** indirectly estimating test performance using an approximation