

## 第三次作业

营养学家都很关心早餐是否有营养。数据集 “cereal.csv” 记录的是 77 个不同品牌型号的麦片的营养成分信息。

要求：

(1) 请合理挖掘并展示数据提供的信息，使用主成分分析法获取综合指标来标示麦片的营养成分

(2) 基于 (1) 得出的指标，对不同品牌的麦片进行聚类，探索他们之间的共性与区别

Data Description：

Variable	Description
mfr	Manufacturer of cereal
type	Cold or hot
calories	Calories per serving
protein	Grams of protein
fat	Grams of fat
sodium	Milligrams of sodium
fiber	Grams of dietary fiber
carbo	Grams of complex carbohydrates
sugars	Grams of sugars
potass	Milligrams of potassium
vitamins	Vitamins and minerals: 0, 25, or 100, indicating the typical percentage of FDA recommended
shelf	Display shelf (1, 2, or 3, counting from the floor
weight	Weight in ounces of one serving
cups	Number of cups in one serving