#### **Exercises**

### Explore the variables

Iris table:

Speal.length, Speal.width, Petal.lenght, petal.width

Heart table:

X,Age,RestBP chol,Fbs,RestECG,MaxHR,Exang,oldpeak,slope,Ca,AHD

Groceries table:

frankfurter sausage liver.loaf ham meat finished.products organic.sausage chicken turkey pork beef hamburger.meat fish citrus.fruit tropical.fruit pip.fruit grapes berries nuts.prunes root.vegetables onions herbs other.vegetables packaged.fruit.vegetables whole.milk butter curd dessert butter.milk yogurt whipped.sour.cream beverages UHT.milk condensed.milk soft.cheese sliced.cheese hard.cheese cream.cheese. cream processed.cheese spread.cheese curd.cheese specialty.cheese mayonnaise tidbits frozen.vegetables frozen.fruits salad.dressing frozen.meals frozen.fish frozen.chicken ice.cream frozen.dessert frozen.potato.products domestic.eggs rolls.buns white.bread brown.bread pastry roll.products. semi.finished.bread

#### List the quantitative variables and qualitative variables

Quantitative variable in iris, heart and groceries as below:

Speal.length, Speal.width, Petal.lenght, petal.width

X,Age,RestBP chol,Fbs,RestECG,MaxHR,Exang,oldpeak,slope,Ca,AHD

Qualitative variables in iris, heart and groceries as below:

Species

THal, Sex, Chest Pain

Frankfurter sausage liver.loaf ham, curd, yougur frozen fish, spices, sauces

# • State a Research question and identify the target variable if applicable

Research question in iris:

Different species flower with width and length for distribution

Research question in heart:

What is related chest pain with MaxHR or other related factor .

Research question in groceries

Which goods is most amount in table

## • Comment if they are supervised learning or unsupervised learning

Yes, we can do supervised learning for the data and generate the outcome for measurement such as checking the Average value, and we also do unsupervised learning such for clustering for Iris data