

# **CS5787 Homework0**

## **Iris flowers**

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## I. Problem Statement

1. How many features/attributes are there per sample?  
There are 4 features/attributes per sample.
2. How many different species are there?  
There are 3 different species.
3. How many samples of each species did Anderson record?  
50 samples per species.

## II. Program idea Statement

\*program is attached in the zip.file

1. The ideas to plot the figures is divided into the following steps:
  - a. select the attributes we want to compare.
  - b.randomly choose the samples, and put the corresponding attributes to the two list we storing data.
  - c.check the species of flowers, to make sure that flowers in the same species have the same color, and put the corresponding color in the list storing color.
  - d.make one plot each time.
2. To make the program can interact with users, I've added [a,b,c] as input numbers:
  - a.The input number a is the number of samples we want to show in the plot.
  - b.The input number b and c are attributes we want to compare each time.

## III. Showing Graphs

\*Red for Iris-setosa, Blue for Iris-versicolor, Green for Iris-virginica.

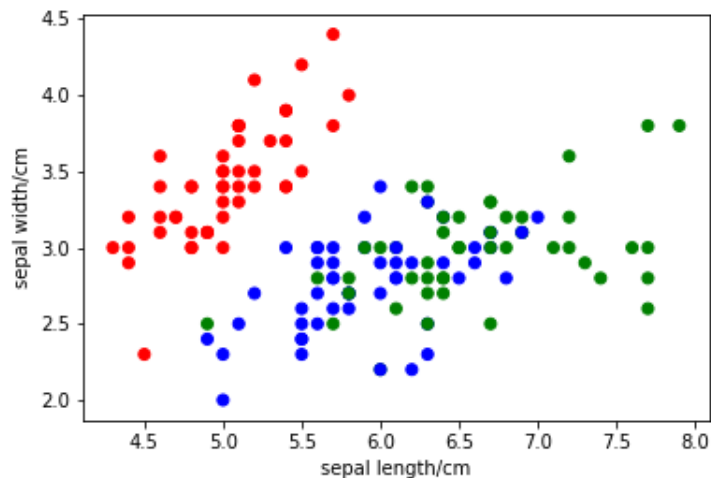


Figure 1: S-length vs. S-width

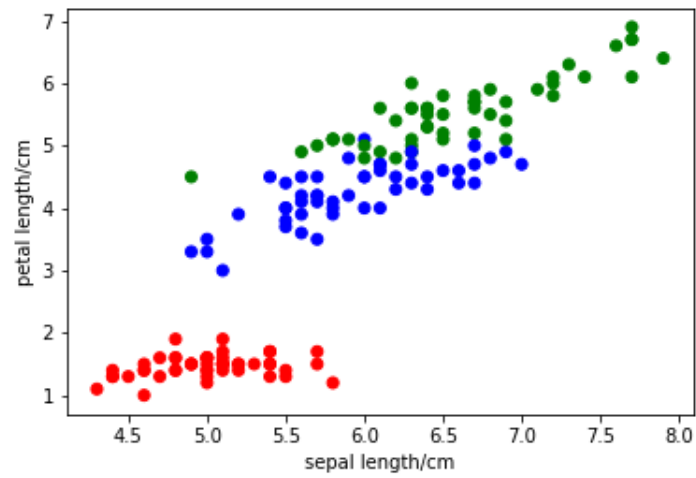


Figure 2: S-length vs. p-length

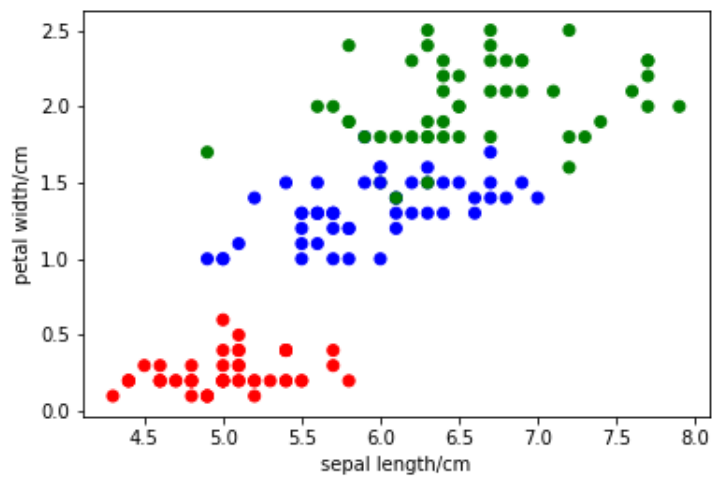


Figure 3: S-length vs. p-width

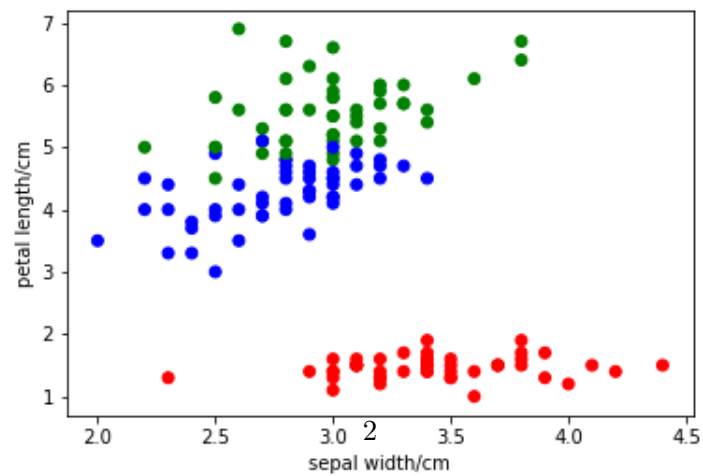


Figure 4: S-width vs. p-length

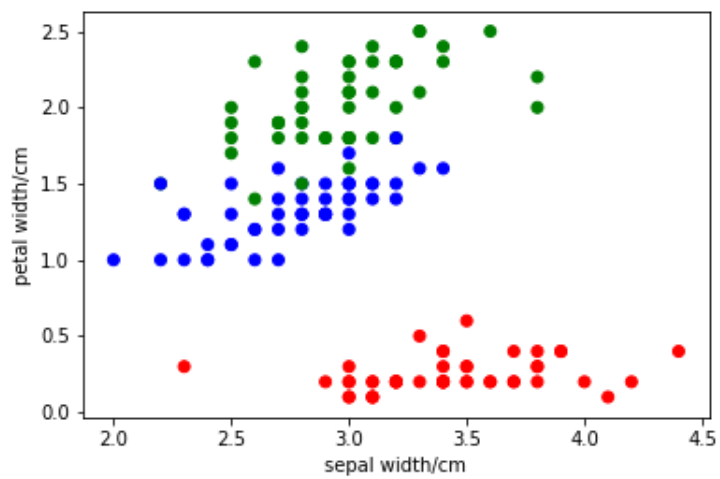


Figure 5: S-width vs. p-width

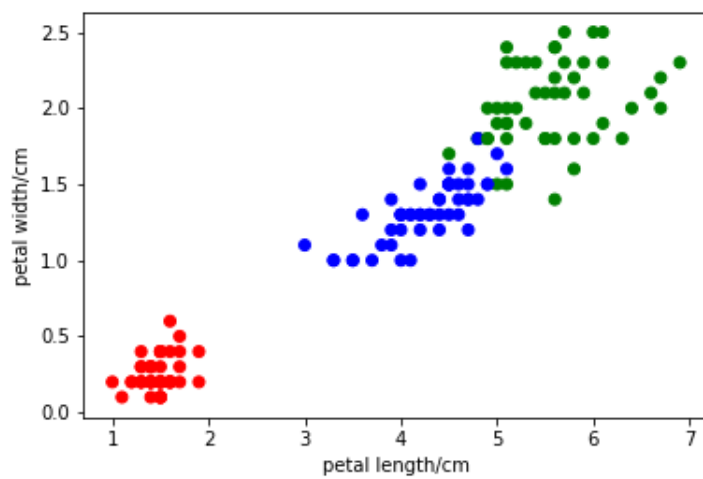


Figure 6: p-length vs. p-width