Coding Assignment 3

Due: 9/8/2021 10:00 AM

- **Task:** Let’s try to estimate the probability distribution of the length of Mackerels and Salmons using MLE by assuming *Gaussian distribution* for the modeling distributions.
- **Data set:** fish_dataset.csv
  - First column: fish length
  - Second column: class (1=Mackerel; 2=Salmon)
- **Submission:** You are to plot the distributions of the length of Mackerels and Salmons estimated by MLE.

Expected Solution to Coding Assignment 3

- Your code must contain the portion that gives the attached distribution plot.

```
x = np.linspace(0, 80, 100)
x_test = 45
plt.plot(x, gaussain_mackarels(x), linewidth=2, color='g', label="f(x|Mackerel)")
plt.plot(x, gaussain_salmons(x), linewidth=2,  color='r', label="f(x|Salmon)")
plt.plot(x_test, gaussain_mackarels(x_test), 'go')
plt.plot(x_test, gaussain_salmons(x_test), 'ro')
plt.axvline(x_test, -1, 1, linestyle='--', label="x_test = 45")
plt.legend()
plt.show()
```