Homework 1

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Part II: Programming and Questions

The estimated μ_0 and Σ_0 of the Gaussian for the Alaskan salmon are:

$$\mu_0 = \begin{bmatrix} 99.22222222 \\ 428.64444444 \end{bmatrix}$$

$$\Sigma_0 = \begin{bmatrix} 264.35061728 & -212.54320988 \\ -212.54320988 & 1386.2291358 \end{bmatrix}$$

The estimated μ_1 and Σ_1 of the Gaussian for the Alaskan salmon are:

$$\mu_1 = \begin{bmatrix} 136.93333333 \\ 366.64444444 \end{bmatrix}$$

$$\Sigma_1 = \begin{bmatrix} 338.24 & 162.82074074 \\ 162.82074074 & 712.85135802 \end{bmatrix}$$

The predicted classes (Alaskan or Canadian) of the fish in the table are:

['Canadian', 'Alaskan', 'Alaskan', 'Canadian', 'Alaskan', 'Canadian', 'Alaskan', 'Canadian', 'Alaskan', 'Alaskan']