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Lab 1 Checkpoint Responses

1. What are four ways in which we can access the Chrysene column? Write the exact code we would need for the Chrysene column.

There are multiple ways to access the Chrysene column, including:

data.df$Chrysene

data.df[, "Chrysene"]
data.df[, 3]

data.df[["Chrysene"]]
data.df[[3]]

data.df["Chrysene"]
data.df[3]

2. Without making any calculations or using R, which PAH do you think has the greatest standard deviation, based on the dot plots? Which do you think has the smallest standard deviation?

Based on the dot plots, Chrysene has the greatest standard deviation and Dibenzo(a,h)pyrene has the smallest standard deviation for enhancement ratios.

3. Do the results match your prediction from Q2? Why do the results make sense?

My results match my prediction from Q2. The standard deviation of Chrysene was 5.311309, the standard deviation of benzo(a)pyrene was 0.9165879, and the standard deviation of Dibenzo(a,h)pyrene was 0.01530795.
These results make sense because the data for DahP is much closer together and clustered near the mean. There is little variance. On the other hand, the data points for Chrysene are more spread out and farther from the mean. The data points for BaP are close together, but not as close as those for DahP.

4. Taking any of the statistics you calculated above, what is one rough, preliminary conclusion you could draw about the three PAHs? You only need to write 1-2 sentences here.

I can conclude that the wildfire causes the concentration of Chrysene to change substantially out of the 3 PAHs, as it has the greatest mean and max enhancement ratios. The enhancement ratios for

benzo(a)pyrene and Dibenzo(a,h)pyrene are much lower, so the wildfire does not impact those concentrations as much.