**Introduction:**

For this activity, you will be exploring data from the 2023 Boston Marathon by analyzing the result times of the finishing runners. Focusing on the single quantitative variable of result times in minutes, you will examine both visualizations and summary statistics to make key conclusions. The incorporation of z-scores will allow for comparisons to be made between two subsets of the data by determining performances of top finishers.

**Learning Goals**

By the end of the activity, you will be able to:

* Analyze structures and distributions of histograms
* Use basic summary statistics to assess center and spread
* Calculate further relevant metrics for quantitative data
* Determine which metrics are most relevant to your data
* Calculate and compare z-scores for individual cases

**Methods**

* For this activity, students will primarily use basic concepts of histograms and boxplots to analyze distributions. Students will also require formulas for deviation, IQR, standard deviation, fences, and z-score. For R users, summary statistics can be calculated using the summary() and var() commands.