The New York City Marathon held on the first Sunday of November is a World Marathon Major. The race starts in Staten Island on the western end of the Verrazano Narrow Bridge. After crossing the bridge the race winds through 4 other boroughs of New York City; Brooklyn, Queens, The Bronx and Manhattan.

The code produces three gender based visualizations (M, F, X) to show median pace of age groups ranging from 10s (10-19) up to 80s (80-89). Aggregation by median was chosen over mean to minimize effect of outliers. A library named pycountry\_convert was used to get the continent name from the country name.

For genders M & W, the pace patterns are what I would expect, where the fastest runners are in their 20s and 30s, and paces slow as age progresses. Only exception is the data for Africa where it looks like the pace improves with age. This may be a related to the low number of African runners (224 out of 55,524 or 0.4%), and disproportionate representation of African runners among the top performers (5 of the top 10, and 9 of the top 100 runners came from Africa).

A screen shot of a graph

Description automatically generated

A screen shot of a graph

Description automatically generated

For gender X, the pace patterns are somewhat erratic. This may be due to low number of participants, 199 out of 55,524 or 0.2%.

A screenshot of a computer screen

Description automatically generated