Endurance Athletics Automated Report Generation
Description and Initial Steps

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Description

The goal of this project is to create a software package that will take xml files containing data from endurance/strength tests completed by athletes, and create a detailed report including but not limited to the athlete's training zones, graphical representations of the data, and analysis of the athlete's performance related to other athletes in that age group.

Initial Steps

1. Create a git repository to share, track, and update the software package
2. Write the code that will transform the xml file into a csv file, where each column is an attribute. Each row should contain all attributes related to the given data object (a moment in time).
3. Begin building the report template and explore using R in combination with python for data analysis and plotting.
4. ...?

Data Attributes by File Type

Running File

(a) Heart Rate

(b) Speed

(c) Cadence

Biking File

(a) Speed

(b) Power

(c) Cadence

(d) Heart Rate

Output File Structure - xmlToCSV.py

The output files are csv format. The column layout for each individual file type is given below:

Running File:
Heart Rate BPM, Speed, Run Cadence

Biking File
Heart Rate BPM, Speed, Bike Cadence, Power

Report Template Structure

This defines the general structure of our report template, including component functions, the tasks they complete, and the overall template structure.

Title and Header Information

(a) Report Title

(b) Athlete Name

(c) Date

(d) ??

First Subsection

(a) ??