The high school ranking system will follow an Elo ranking system (see kikipedia). My thoughts are that all runners start with 1000 points. This indicates “average”. The ELO algorithm takes the k(k-1)/2 pairwise comparisons for a given race and the scores are increased or decreased based on wins & losses. The number of points are fixed, in that, in SD the total points are (# runners)\*1000.

If a runner does not compete for two consecutive meets as indicated on the school’s XC schedule, the runner will be penalized every consecutive meet they don’t compete in. The specific penalty will be determined by the range of points in the ELO system, but a simple example would be a loss of 100 points every missed meet. It is common for runners (especially top runners) to take an off meet for training purposes. We do not want to penalize these runners hence the two consecutive missed meets flag.

The data will be need to be formatted with the runner’s name, runnerID, SchoolID, meet, meet\_date, time, isfirstrace, consec\_missed,