Wrestling Season Simulation

* Conference of 8 teams
* Sixteen random teams
* A team consists 12 wrestlers in different wt classes
  + 103, 112, 118, 126, 132, 138, 145, 155, 167, 189, 212, 285
  + Minimum wt is 93 lbs.
  + They must weigh at least 1 lb more than 2 wt classes down
  + For ex: to wrestler in 138lb wt class must weight 127<= w <=138

Each team in the conference will wrestler every other team in the conference

* In addition, each team will wrestle against 8 random teams out of 12 random teams
* In addition, each team will wrestle in two other 8 person tournaments whose teams are chosen from the 19 other teams.
* Conference tournament at the end of the season.

Team generation:

* Each team will have 12 wrestlers with a random ability score (mean of 100, std div of 15)
* These wrestlers will be placed randomly in the 12 wt classes of that team

Conference schedule

* All conference teams wrestle in a dual meet once.

Non-Conference schedule

* Choose 8 random opponents from the non-conference pool
* Two tournaments with 7 teams chosen at random from the other 19

Match resolution

A bout between two wrestlers in the same wt class

* 1. The ability scores are compared, one is S (stronger), one is W (weaker)
  2. Sigma = Std div = (S-W)/3
  3. Two random performance numbers are generated
     1. Ps = mean of S, sigma
     2. Pw = mean of W, sigma
     3. If Ps>Pw then stronger wins
     4. If Ps<Pw then there is an upset and weaker wins
     5. If Ps==Pw, choose a random victor
  4. Fall, Forfeit, Default, Disqualification - 6 team points

Technical Fall (winning by 15 points ends the match) - 5 team points

Major Decision (winning the match by 8 - 14 points) - 4 team points

Decision (winning the match by fewer than 8 points) - 3 team points

If Ps and Pw are in the same std div Decision: 3 team points

If winner is one std above Major Decision: 4 team points

If winner is two std above then Tech Fall: 5 team points

If winner is more than two: 6 points

Example:

S = 122

W = 101

Std = (122-101)/3 = 7

Random scores

Pw= 115

Ps = 130

Abs(Ps-Pw)/Std (130-115)/7 = 15/7 = 2.14 win by fall, 6 team points

Tournament outline

Round 1 1 vs 8 top bracket (match #1)

5 vs 4 (#2)

3 vs 6 bottom bracket (#3)

2 vs 7 (#4)

Round 2 winner of #1 against winner of #2 (match #5)

Winner of #3 against winner of #4 (#6)

Loser of #1 against the loser of #2 (#7)

Loser of #3 against the loser of #4 (#8)

Round 3 Loser of #5 against winner of #8 (#9)

Loser of #6 against winner of #7 (#10)

Loser of #7 against loser of #8 (#11)

Loser of #9 vs loser of 10 (#12)

Round 4 for third place

Winner of #9 vs winner of #10 (#13)

For first place

Winner of #5 vs. winner of #6 (#14)

* 1. Tournament scoring to be added later

Required: PROGRAMMING GOALS

1. Scheduler that meets the rules above
2. Record book that has a method for comparing results between wrestlers (\*\*)
3. Tournament seeding module
4. Run the season, in order, with non conf tournaments
5. Run the conference tournament

Optional Functionality (choose at least 1)

1. Injuries, if a wrestler performs at below 3 stdiv of their mean, they are injured for 1 week to then of the season (all are equally likely). If a wrestler is injured the team replaces him with a new wrestler whose ability score MUST BE LESS than the injured one. If injuries occur in a tournament, no replacement is allowed and a DEFAULT is his replacement.
2. Conference TEAM champions from reg schedule, not the winner of the conference tournament.
3. Added fidelity, e.g. wt loss during season, keep track of actual wts, including FAILURE to make wt, or changes in wt. class.
4. Or any other nifty idea you may have.