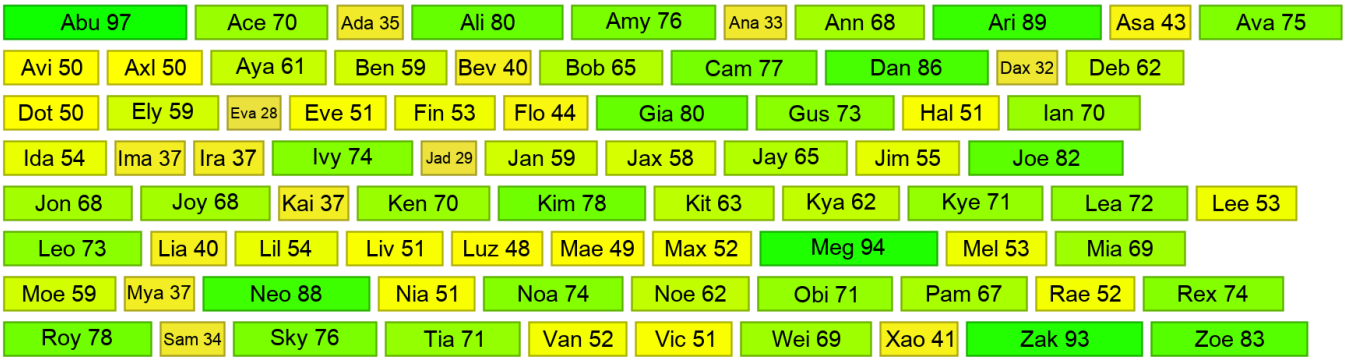
COS 485: Program #8 – Team Balancer

Objectives: Designing an iterative improvement algorithm (suggestion, but do what you want)



Design an algorithm to assign players to sports teams so that every team gets the same number of players, and also so that the sum of skill levels on each team are as evenly balanced as possible.

In the example above there are 80 players, and we want 8 teams of 10 players each. The names and skill levels are shown. The players are arranged in 8 rows of 10 players, but if these were the teams, the skill level sums would not be well balanced. You can do a lot better!

Don't expect to find an optimal solution but try to find something good.

The input is:

- an array of Player objects (with fields: name and skill)
- the number of teams to create

You may assume that the number of players will be evenly divisible by the number of teams, and that the skill levels are integers in the range from 0 to 100.

Setting up the project in Eclipse:
Create a new project similar to how you set up program 1:

- It will use TeamBalancer.jar, the same Scaffold jar, and starting code TeamBalancer.java
- In the run configuration set **Main class** to: tester/TeamBalancerTester

What to turn in:
Written Report turned in through Brightspace

1. A screen shot of the result tab for test80.txt
2. A short well written English explanation of your algorithm.

Electronic Submit
From a Unix machine in the lab run the program "submit" to submit your files.
Submit your source code (.java files) and compiled code (.class files) to the directory: **prog7**

Grading:

- 80 points – Finding a good solution
- 20 points – Your algorithm explanation
- 10 points extra credit – for finding the best solution in the class