Thanks for considering Numerator :)

Objective

You will have 3 days to solve the following problems. Please ZIP all of your python and data files (including the CSV), as well as any instructions (as a readme). At or before the deadline, please send the ZIP file to your contact.

Instructions

Here is some data on MLB Player Salaries:

- mlb_salaries.csv

Complete the next **three** problems using this dataset.

Requirements

- You must use Python or R
- Package all your relevant code and data files (including the CSV) as a ZIP to send to your contact
- Cite any references you used, especially if you borrowed code from them (Stack Overflow post, Gist, Wikipedia)

Suggestions

- If you are using R, the preferred output of each problem is *charts*
- If you are using Python, a table/dataframe of results is sufficient
- Make sure to practice software best practices: we will grade for correctness as well as code quality

1. Average Player Salaries

Player salaries notoriously seem to increase every year, but to what extent?

a. Calculate the average player salaries by year (X-axis: Year, Y-axis: Avg. Player Salary)
b. Which year had the highest average player salary?

2. Salary Trends

Is there ever a point where a player's salary starts to decline?

a. Calculate players' salary change based on their tenure in the league (X-axis: Years in league, Y-axis: Percent salary change)
b. Is there a year in a player's career where their salary starts to decline?

3. Salary Variance

There is no league-imposed team salary cap in baseball, so some teams pay considerably more than others.

a. Calculate the standard deviation in team salary over the last 30 years (X-axis: Year, Y-axis: Std dev of team salaries)
b. Is there a trend in the standard deviation?