

**CIS2300**

**Group # 3**

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## **Project Question #3 Report**

### **Introduction**

The goal of this report is to compare heights of college athletes using Python. Specifically, the company's objective is to find out whether college swimmers are, on average, taller or shorter than college volleyball players. To achieve this, we will scrape data from various college sports teams, including both men's and women's rosters, and use it to draw comparisons between swimmers and volleyball players.

### **Techniques Used**

The following techniques were used to complete this project:

1. Web Scraping: we imported Python libraries like requests and BeautifulSoup to scrape data such as team names and heights from various college sports team rosters.
2. Data Visualization: we imported pyplot module from the matplotlib to draw graphs

### **Methodology**

1. We first defined the urls dictionary and add a list of urls for each team.
2. We created an average function to loop through each url in the list, scrape data, extract player names and heights from the rosters, and store them in pandas DataFrames.
3. We created another function to take the data (name & height) we got from the average function and export it to csv file.
4. We called the average function and filtered the dataframe to include top 5 tallest and shortest athletes from different teams.
5. We then calculate the average using .mean() method and .:2f to set it to 2 decimal places.
6. We created another dictionary called avg\_data to store all the team names and average heights we found previously.
7. We then imported matplotlib.pyplot library to create a bar graph based on names and average heights.
8. Finally, we created an sqlite database named sports teams and saved the pandas dataframe in that database.

### **Presenting the findings**

The average height of the mens swim team is 71.08 inches.

The average height of the women's swim team is 65.75 inches.

The average height of the men's volleyball team is 71.30 inches.

The average height of the women's volleyball team is 68.21 inches.

The average height of men's swim team is 71.08 inches. The average height of men's volleyball team is 71.30 inches, which is about 0.22 in taller than men's team. On the women's side, the

average height is more noticeable. The average height of women's swim team is 65.75 inches while the women's volleyball team averages 68.21 inches, making them about 2.46 inches taller.

## Discussion

We believe the findings are representative of both sports. Volleyball players are often taller because this sport involves a lot of jumping, blocking, and reaching over the net, which is easier for taller volleyball players. This is especially clear when we compare the average heights of women swimmers and women volleyball players. In swimming, being tall can help, but strength and endurance are generally considered to be more significant.

## Conclusion

Based on what we found, it can be concluded that varsity volleyball players are, on average, taller than swimmers.

## Graph Appendix

