



1. Sampling Distributions
2. Confidence Intervals
3. Hypothesis Testing
4. p-values and Significance

## **Probability**

Probability provides the foundation for statistical inference.

1. Basic Probability Rules
2. Discrete and Continuous Distributions
3. Bayesian Thinking

## **Key Python Libraries for AP Statistics**

Python's ecosystem includes several libraries that facilitate statistical analysis and visualization, making it easier for students to implement concepts learned in class.

### **NumPy**

NumPy provides support for large multi-dimensional arrays and matrices, along with mathematical functions to operate on them.

1. Calculating means, medians, variances
2. Generating random data

### **Pandas**

Pandas simplifies data manipulation and analysis by offering data structures like DataFrames.

1. Data cleaning and organization
2. Summarizing datasets

### **Matplotlib and Seaborn**

These visualization libraries help create informative and attractive plots





































