

# Data Visualization

## 1 Trends

A trend is defined as a pattern of change.

**sns.lineplot:** Line charts are best to show trends over a period of time, and multiple lines can be used to show trends in more than one group.

## 2 Relationship:

There are many different chart types that you can use to understand relationships between variables in your data.

**sns.barplot:** Useful for comparing quantities corresponding to different groups.

**sns.heatmap:** Find color-coded patterns in tables of numbers.

**sns.scatterplot:** Show the relationship between continuous variables.

**sns.regplot:** Including a regression line in the scatter plot makes it easier to see any linear relationship between two variables.

**sns.lmplot:** For drawing multiple regression lines, if the scatter plot contains multiple, color-coded groups.

**sns.swarmplot:** Categorical scatter plots show the relationship between a continuous variable and a categorical variable.

## 3 Distribution

We visualize distributions to show the possible values that we can expect to see in a variable, along with how likely they are.

**sns.distplot:** Histograms show the distribution of a single numerical variable.

**sns.kdeplot:** KDE plots show an estimated, smooth distribution of a single numerical variable.

**sns.jointplot:** This command is useful for simultaneously displaying a 2D KDE plot with the corresponding KDE plots for each individual variable.