I'm human

The cumulative frequency is the sum of a single frequency and all subsequent frequencies in a dataset, calculated until a specific class interval is reached. This running total represents the cumulative frequency, which can be displayed in a table alongside the original data, using class intervals. Frequency refers to the number of occurrences within a specific class interval, whereas cumulative frequency represents the total count up to and including that particular class interval. To illustrate this, consider the following example: Height (in cm) Cumulative Frequency Less than type: Students with heights less than 145 cm - 2 Students with heights less than 150 cm - 7 Students with heights less than 155 cm - 10 Students with heights less than 160 cm - 14 Students with heights less than 165 cm - 15 Greater than type: Students with heights more than or equal to 140 cm - 2 Students with heights more than or equal to 150 cm - 7 Students with heights more than or equal to 155 cm - 10 Students with heights more than or equal to 160 cm - 14 Students with heights more than or equal to 165 cm - 1 Cumulative frequency tables can be constructed by following these steps: Step 1: Set up a frequency distribution table using suitable class intervals. Step 2: Find the frequency for each interval. Step 3: Locate the endpoint of each interval (upper limit or lower limit). Step 4: Calculate the cumulative frequency by adding the numbers in the frequency column. Step 5: Record all results in the table. Example: During a 20-day skiing competition, snow depth measurements were taken at Snow Mountain for each day. The records are as follows: 301, 312, 319, 354, 359, 345, 348, 341, 347, 344, 349, 350, 325, 323, 324, 328, 322, 332, 334, 337. To construct a cumulative frequency distribution table for these data, follow the steps: Step 1: Group the data in class intervals of 10 cm each. Step 2: Record the number of observations that fall within each interval. Step 3: Use the highest number in each interval as its endpoint. Step 4: Calculate the cumulative frequency by adding the numbers in the frequency column. Visualizing data through frequency graphs is an efficient way to grasp its significance and extract meaningful results in statistics. Graphs play a crucial role in understanding complex data by allowing us to visualize it more effectively. Let's delve into how we can represent cumulative frequencies graphically, focusing on the graphical representation of cumulative frequency. There are two types of Cumulative Frequency Curves (also known as Ogives): More Than Type and Less Than Type Cumulative Frequency Curve. **More Than Cumulitive Freqency Curve**: For plotting a more than type curve or ogive, we use the lower limit of each class interval on the x-axis. The points are constructed by subtracting the total frequency from the first-class frequency, then adding the second class frequency, and so on. The resulting graph shows an upward cumulation, representing frequencies greater than the cumulative curve. Steps to plot a more than type ogive include: Step 1: Mark the lower limit of each class interval on the x-axis. Step 2: Record the cumulative frequency on the y-axis. Step 3: Plot points (x,y) using the lower limits (x) and their corresponding cumulative frequencies (y). Step 4: Connect these points with a smooth freehand curve. **Less Than Cumulative Frequency Curve**: To plot a less than type curve or ogive, we use the upper limit of each class interval on the x-axis. The points are constructed by adding the first-class frequency to the second class frequency and so forth. This results in a downward cumulation, representing frequencies less than the cumulative frequency curve. Steps to plot a less than type ogive include: Step 1: Mark the upper limits of class intervals on the x-axis. Step 2: Record the cumulative frequency on the y-axis. Step 3: Plot points (x,y) using the upper limits (x) and their corresponding cumulative frequencies (y). Step 4: Connect these points with a smooth freehand curve. **Example**: To graphically represent the cumulative frequencies for the weekly wages of workers, let's use the following data: Weekly Wages Number of Workers C.F. (Less Than) C.F. (More Than) 0-20 4 4 18 (total) 20-40 5 9 (4 + 5) 14 (18 - 4) 40-60 6 15 (9 + 6) 9 (14 - 5) 60-80 3 18 (15 + 3) 3 (9 - 6) For the less than curve or ogive, mark the upper limits of class intervals on the x-axis and use the less than type cumulative frequencies on the y-axis. Points to plot include (20,4), (40,9), (60,15), and (80,18). Connecting these points with a smooth freehand line gives us the less than ogive. For the greater than curve or ogive, mark the lower limits of class intervals on the x-axis and use the greater than type cumulative frequencies on the y-axis. Points to plot include (0,18), (20,14), (40,9), and (60,3). Connecting these points with a smooth freehand line gives us the greater than ogive. A perpendicular line drawn from the point of intersection between the two curves meets the x-axis at a certain point, which determines the median. In this case, the median is The median of a dataset can be found by analyzing cumulative graphs. To do this, draw the less than and greater than ogives on the same graph, and identify the point at which they intersect. This point corresponds to the value on the x-axis, representing the median. Cumulative frequency graphs, also known as relative cumulative frequency graphs or ogive graphs, display the percentile of a dataset. They show how many data points are below a specific value, indicating the percentage of observations above that value. Additionally, these graphs reveal the shape of the distribution, which is useful for standardizing datasets and comparing observations. One common application of this type of graph is in statistics, where it helps to identify patterns and trends in data. For instance, if a car dealer wants to calculate total sales for a month and determine monthly sales as a percentage after weeks 1, 2, 3, and 4, they can create a relative cumulative frequency table. This table shows the total number of cars sold each week, along with its corresponding relative frequency and cumulative frequency. By analyzing this data, the dealer can easily calculate the total sales for the month and determine the monthly sales as a percentage after each week. Example 1: A gamer, Ryan, spends his week playing games on different days. The hours spent gaming are given below. Friday: 8 + 4 = 12 Saturday: 2 + 12 = 14 Sunday: 1 + 14 = 15 Thus, Ryan spends 15 hours of gaming in a week. The term "cumulative frequency" is often referred to as more than type cumulative frequency. A Cumulative Frequency Series is essentially a sequence of frequencies that are continuously added, each corresponding to a specific class interval. To plot a cumulative frequency diagram, start by drawing the upper-class/lower-class boundary with the cumulative frequency. The vertical axis should represent cumulative frequency, while the horizontal axis represents class boundaries. Here's how to create a cumulative frequency graph: First, mark the class limits on the x-axis. Next, mark the cumulative frequencies on the y-axis. Then, plot points (x,y) using the class limit (x) and its corresponding cumulative frequency (y). Finally, join the points with a smooth freehand curve.

How to get frequency and cumulative frequency. How to make a cumulative frequency distribution table in excel. How to make a frequency table from a cumulative frequency graph. How to make a cumulative frequency table in google sheets. Cumulative frequency excel. How to make a cumulative frequency distribution table. How to make cumulative frequency table in excel. How to make a cumulative relative frequency table. How to make less than cumulative frequency table. What is a cumulative frequency table.