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The lower boundary of each class is calculated by subtracting half of the gap value from the class lower limit. On the other hand, the upper boundary of each class is calculated by adding half of the gap value to the class upper limit. Question 1. Which of the following alternatives is true? (i) The class mid-point is equal to (a) the average of the upper class limit and the lower class limit (b) the product of upper class limit and the lower class limit (c) the ratio of the upper class limit and the lower class limit (d) None of the above Answer: (a) The class mid-point is the middle value of a class. It lies halfway between the lower class limit and the upper class limit of a class and is calculated as Class Mid-Point or Class Mark = $(\frac{\text{Upper Class Limit} + \text{Lower Class Limit}}{2})$ (ii) The frequency distribution of two variables is known as (a) Univariate Distribution (b) Bivariate Distribution (c) Multivariate Distribution (d) None of the above Answer: (b) Bi means two and hence the frequency distribution of two variables is known as Bivariate Distribution. (iii) Statistical calculation in classified data are based on (a) the actual values of observations (b) the upper class limits (c) the lower class limits (d) the class mid-points Answer: (d) The class mid-points of each class is used to represent the class and therefore, it is used in further calculations after the raw data are grouped into classes. (iv) Under exclusive method, (a) the upper class limit of a class is excluded in the class interval (b) the upper class limit of a class is included in the class interval (c) the lower class limit of a class is excluded in the class interval (d) the lower class limit of a class is included in the class interval Answer: (a) Under the exclusive method we form classes in such a way that the lower limit of a class coincides with the upper class limit of the previous class. Under the method, the upper class limit is excluded but the lower class limit of a class is included in the interval. (v) Range is (a) the difference between the largest and the smallest observations (b) difference between the smallest and the largest observations (c) average of the largest and the smallest observations (d) ratio of the largest to the smallest observation Answer: (a) The variation in variable's value are captured by its range. The range is the difference between the largest and the smallest values of the variable. A large range indicates that the values of the variable are widely spread. Question 2. Can there be any advantage in classifying things? Explain with an example from your daily life. Answer: Classification refers to arranging or organising similar things into groups or classes. Classification of objects or things saves our valuable time and effort. Classification is done to group things in such a way that each group consists of similar items, e.g., we classify our wardrobe into different types of clothes or dresses according to the occasions on which they are to be worn. We put party wears, school uniform, casual daily wears and night wears separately. This helps us in an orderly arrangement of clothes and we can easily fetch the clothes we want at a particular time without searching through the whole wardrobe. Thus, it is evident that classification saves time and labour and helps to produce the desired results. Question 3. What is a variable? Distinguish between discrete and a continuous variable. Answer: A measurable characteristic which takes different values at different points of time and in different circumstance is called a variable as it keeps varying. Different variables vary differently and depending on the way they vary, they are broadly classified into two types S.N. Discrete Variable Continuous Variable (i) A discrete variable can take only whole numbers. A continuous variable can take any numerical value. (ii) Discrete variables increase in finite jumps from one value to another and cannot take any intermediate value between them. Continuous variables can take any conceivable value and can be broken into infinite gradations. (iii) Example-number of workers in a factory, number of residents in a colony, etc. Examples-height, weight, distance, etc. Question 4. Explain the 'exclusive' and 'inclusive' methods used in classification of data. Answer: Exclusive Method In this method, the classes are formed in such a way that the upper class limit of one class becomes the lower class limit of the next class. Continuity of the data is maintained in this method. Under this method, the upper class limit is excluded but the lower class limit of a class is included in the interval. According to this method, an observation that is exactly equal to the upper class limit would not be included in that class but would be included in the next class. On the other hand, if it were equal to the lower class limit then it would be included in that class, e.g., if the class intervals are 0-5, 5-10, 15-20 and so on, a value of 10 would be included in the 10-15 and not in the interval 5-10. Inclusive Method The inclusive method does not exclude the upper class limit in a class interval. It includes the upper class in a class. Thus, both class limits are parts of the class interval, e.g., the class intervals of 0-5, 6-10, 11-15, and so on are inclusive. Question 5. Use the data in Table 3.2 that relate to monthly household expenditure (in ₹) on food of 50 households and (ii) Obtain the range of monthly household expenditure on food. (iii) Divide the range into appropriate number of class intervals and obtain the frequency distribution of expenditure. (iii) Find the number of households whose monthly expenditure on food is less than ₹ 2,000 more than ₹ 3,000 between ₹ 1,500 and ₹ 2,500 Answer: (i) Range = Largest Value - Smallest Value Highest Value = 5090 Lowest Value = 1007 So, Range = 5090 - 1007 = 4083 (ii) (a) Number of households whose monthly expenditure on food is less than ₹ 2000 = 20 + 13 = 33 (b) Number of households whose monthly expenditure on food is more than ₹ 3000 = 2 + 1 + 2 + 0 + 1 = 6 (c) Number of households whose expenditure on food is between ₹ 1500 and ₹ 2500 = 13 + 6 = 19 Question 6. In a city, 45 families were surveyed for the number of domestic appliances they used. Prepare a frequency array based on their replies as recorded below. 1 3 2 2 2 1 2 1 2 2 3 3 3 3 3 2 2 6 1 6 2 1 6 1 5 3 3 2 4 2 4 2 4 3 4 2 0 3 1 4 3 Answer: No. of Domestic Appliances No. of Households 0 1 1 7 2 15 3 12 4 5 5 2 6 7 1 Total 45 Question 7. What is loss of information' in classified data? Answer: Classification of data as a frequency distribution summarises the raw data making it concise and comprehensible but it does not show the details that are found in raw data. Once, the data are grouped into classes, an individual observation has no significance in further statistical calculations. All values in a class interval are assumed to be equal to the middle value of the class interval instead of their actual value which causes considerable loss of information. It not only save our time but also our energy, which would otherwise be utilised in searching from entire things. Question 8. Do you agree that classified data is better than raw data? Answer: The raw data is usually large and fragmented and it is very difficult to draw any meaningful conclusion from them. Classification makes the raw data comprehensible by summarising them into groups. When facts of similar characteristics are placed in the same class, it enables one to locate them easily, analyse them, make comparison and draw inferences. Question 9. Distinguish between univariate and bivariate frequency distribution. Answer: The term "uni" stands for one and thus the frequency distribution of a single variable is called a Univariate Distribution, e.g., the frequency distribution of age of students in a class is univariate as it gives the distribution of a single variable i.e., age. On the other hand "bi" means two and a Bivariate Frequency Distribution is the frequency distribution of two variables, e.g., like price of good and sales of the good is a bivariate distribution. Question 10. Prepare a frequency distribution by inclusive method taking class interval of 7 from the following data. Answer: Statistics for Economics Class 11 NCERT Solutions NCERT Solutions for Class 11 Economics The three dimensional diagrams are named as so because they considers both C, depth, length and breadth The type of graphical charts that allows user to make direct comparisons between various data sets are called D. non paired data charts The types of histograms includes The table in which the data represented is extracted from some other data table is classified as If in the bar diagram the characteristics variable to be measured is written on horizontal axis and frequencies are written on vertical axis then the graph is for In stem and leaf display diagrams used in exploratory analysis, the leaves are considered as The type of classification in which class is subdivided into subclasses and subclasses are divided into more classes is considered as B. manifold classification C. rational classification D. reflected classification Question 1. Which of the following alternatives is true? 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Prepare a frequency distribution by inclusive method taking class interval of 7 from the following data. Answer: Statistics for Economics Class 11 NCERT Solutions NCERT Solutions for Class 11 Economics 25992 Students Helped in Intro Stats / AP Statistics "Numerade has a great goal - to increase people's educational levels all around the world. Educators do not complete student's personal homework tasks. We create video tutorials that may be used for many years in the future." Dr. Mei Lin Chen PhD in Intro Stats / AP Statistics Class midpoints are an important concept in data analysis and statistics, and understanding them is essential for proper interpretation of data. A class midpoint is a value halfway between the lower boundary and the upper boundary of a class in a frequency distribution table. For example, if you have a frequency distribution table that lists different classes with their frequencies, you can find the midpoint of each class by dividing the sum of the lower boundary and upper boundary of that class by two. For example, if there is a class with boundaries 10 and 19, then its midpoint would be calculated as $(10 + 19) / 2 = 14.5$. Class midpoints are often used when creating histograms to visualize the values in a frequency table. A histogram lists the classes along the x-axis of a graph and uses bars to represent the frequency of each class along the y-axis. Each bar is centered at its class midpoint so that it accurately reflects the data points within that class. In addition to being used for visualizing data in charts, such as histograms, class midpoints are also used for other purposes such as calculating weighted averages or finding correlations between different variables. This makes them an important tool for statistical analysis and data interpretation. In conclusion, understanding how to calculate and use class midpoints is essential for any student or practitioner dealing with statistics or data analysis. It provides an easy way to visualize data points within different classes, calculate weighted averages, and identify correlations between variables—all important steps in making sense of large sets of data. The midpoint in a frequency table is the value that lies halfway between the lower and upper class limits of each class. To find the midpoint, simply add the lower limit and upper limit of the class together and divide by two. For example, if a frequency table has classes 0-5, 6-10 and 11-15, then the midpoint for each of these classes would be 2.5 (0+5)/2, 8 (6+10)/2 and 13 (11+15)/2 respectively. The midpoint of the 25 up to 30 class is 27.5. This is calculated by adding the lower boundary (25) and the upper boundary (30) together, then dividing that sum by two. The midpoint of 10 and 19 depends on the context. If we're talking about a range of values between 10 and 19, inclusive, then the midpoint would be 14.5. However, if we're talking about a range that includes values up to just below 20 (i.e. 10-19), class midpoints are used to provide a numerical representation of the center of each class in a frequency table. They allow us to easily visualize the data by plotting it on a graph, such as a histogram. The midpoint is calculated by adding the upper and lower class boundaries and dividing the result by two. This provides an indicative value for each class, which can then be plotted along the x-axis. The corresponding frequency of that class can then be plotted along the y-axis. This allows us to quickly identify patterns within our data set and draw conclusions about it. The midpoint of a class interval is the average of the two endpoints of that interval. To find the midpoint, simply add the two limits of the interval together and divide by 2. For example, if we have a class interval with lower limit 3 and upper limit 7, we would calculate the midpoint by adding 3 and 7 together, then dividing by 2. This would give us $(3 + 7) / 2 = 10 / 2 = 5$, which is the midpoint of this class interval. To calculate the midpoint of a line, you'll need to first measure the distance between the two end points. Divide this distance by 2 to get the midpoint. Alternatively, you can add the two x coordinates of the endpoints and divide by 2, then do the same for the y coordinates. This will give you an (x,y) coordinate pair representing the midpoint of the line. The midpoint of 6 and 4 is (5, -2). To find the midpoint, take the average of both x-coordinates $(6+4=10/2=5)$ and the average of both y-coordinates $(-4+0=-4/2=-2)$. The midpoint is (5, -2). The midpoint of 9 and 3 is 6. This is because the midpoint of any two numbers can be calculated by taking the arithmetic average of the two numbers. In this case, the arithmetic average of 9 and 3 is 6, making 6 the midpoint between the two numbers. The midpoint method is important because it provides a consistent and reliable way to calculate price elasticity. The formula uses the same base in both cases of a price increase or decrease, making it easier to compare the elasticity between two price points. Furthermore, it is a simple and straightforward method that can be applied to different types of goods and services. This makes it useful for businesses when making decisions about pricing strategies. Finally, the midpoint method is also used in economic theory and analysis, providing insight into consumer behavior for economists. Source: toptal.com

Class midpoints are an important concept in data analysis and statistics, and understanding them is essential for proper interpretation of data. A class midpoint is a value halfway between the lower boundary and the upper boundary of a class in a frequency distribution table. For example, if you have a frequency distribution table that lists different classes with their frequencies, you can find the midpoint of each class by dividing the sum of the lower boundary and upper boundary of that class by two. For example, if there is a class with boundaries 10 and 19, then its midpoint would be calculated as $(10 + 19) / 2 = 14.5$. Class midpoints are often used when creating histograms to visualize the values in a frequency table. A histogram lists the classes along the x-axis of a graph and uses bars to represent the frequency of each class along the y-axis. Each bar is centered at its class midpoint so that it accurately reflects the data points within that class. In addition to being used for visualizing data in charts, such as histograms, class midpoints are also used for other purposes such as calculating weighted averages or finding correlations between different variables. This makes them an important tool for statistical analysis and data interpretation. In conclusion, understanding how to calculate and use class midpoints is essential for any student or practitioner dealing with statistics or data analysis. It provides an easy way to visualize data points within different classes, calculate weighted averages, and identify correlations between variables—all important steps in making sense of large sets of data. The midpoint in a frequency table is the value that lies halfway between the lower and upper class limits of each class. To find the midpoint, simply add the lower limit and upper limit of the class together and divide by two. For example, if a frequency table has classes 0-5, 6-10 and 11-15, then the midpoint for each of these classes would be 2.5 (0+5)/2, 8 (6+10)/2 and 13 (11+15)/2 respectively. The midpoint of the 25 up to 30 class is 27.5. This is calculated by adding the lower boundary (25) and the upper boundary (30) together, then dividing that sum by two. The midpoint of 10 and 19 depends on the context. If we're talking about a range of values between 10 and 19, inclusive, then the midpoint would be 14.5. However, if we're talking about a range that includes values up to just below 20 (i.e. 10-19), class midpoints are used to provide a numerical representation of the center of each class in a frequency table. They allow us to easily visualize the data by plotting it on a graph, such as a histogram. The midpoint is calculated by adding the upper and lower class boundaries and dividing the result by two. This provides an indicative value for each class, which can then be plotted along the x-axis. The corresponding frequency of that class can then be plotted along the y-axis. This allows us to quickly identify patterns within our data set and draw conclusions about it. The midpoint of a class interval is the average of the two endpoints of that interval. To find the midpoint, simply add the two limits of the interval together and divide by 2. For example, if we have a class interval with lower limit 3 and upper limit 7, we would calculate the midpoint by adding 3 and 7 together, then dividing by 2. This would give us $(3 + 7) / 2 = 10 / 2 = 5$, which is the midpoint of this class interval. To calculate the midpoint of a line, you'll need to first measure the distance between the two end points. Divide this distance by 2 to get the midpoint. Alternatively, you can add the two x coordinates of the endpoints and divide by 2, then do the same for the y coordinates. This will give you an (x,y) coordinate pair representing the midpoint of the line. The midpoint of 6 and 4 is (5, -2). To find the midpoint, take the average of both x-coordinates $(6+4=10/2=5)$ and the average of both y-coordinates $(-4+0=-4/2=-2)$. The midpoint is (5, -2). The midpoint of 9 and 3 is 6. This is because the midpoint of any two numbers can be calculated by taking the arithmetic average of the two numbers. In this case, the arithmetic average of 9 and 3 is 6, making 6 the midpoint between the two numbers. The midpoint method is important because it provides a consistent and reliable way to calculate price elasticity. The formula uses the same base in both cases of a price increase or decrease, making it easier to compare the elasticity between two price points. Furthermore, it is a simple and straightforward method that can be applied to different types of goods and services. This makes it useful for businesses when making decisions about pricing strategies. Finally, the midpoint method is also used in economic theory and analysis, providing insight into consumer behavior for economists. Source: toptal.com

You can find more information on class midpoints in the following resources: [Statistics for Dummies] [Statistics Textbooks] [Statistics Websites] In this blog post, we have discussed how to find the class midpoints in statistics. We first defined what a class midpoint is and then showed how to calculate it using the formula $(\frac{\text{Upper Limit} + \text{Lower Limit}}{2})$. We then provided several examples of how to find the class midpoints for different types of data sets. Finally, we discussed some of the advantages and disadvantages of using class midpoints in statistics. We hope that this blog post has been helpful in understanding how to find the class midpoints in statistics. Please feel free to contact us if you have any questions or need further assistance. Similar Questions Explore Relevant Multiple Choice Questions (MCQs) Q. The classification on the basis of time order is called as View solution Q. The graphs which represents data on maps are considered as View solution Q. The class frequency is divided by number of observations in the frequency distribution to convert it into View solution Q. The histograms and pie charts are classified as one dimensional diagrams because only View solution Q. In stem and leaf display diagrams used in exploratory analysis, the leaves are considered as View solution Q. The original tables used to represent data are considered as View solution Q. If the classification of collected data is based on characteristics such as religion, education and caste, then this is considered as View solution Q. The process of arranging data on the basis of certain properties in classes or groups is classified as View solution Q. The smallest numerical value is subtracted from largest numerical value and then divided to number of class desired to calculate View solution Q. The type of graphical charts that allows user to make direct comparisons between various data sets are called View solution Q. The type of table in which study variables provides large number of information with interrelated characteristics is classified as View solution Q. The table in which the data represented is extracted from some other data table is classified as View solution Q. If each value of frequency distribution is divided by total number of recorded observations in distribution then the resultant value is called View solution Q. The record of daily shipment is 34, 35, 41, 30, 55, 45, 30, 34, 32, 52, 42, 40, 60, 36, 38, 48, 56, 53, 34, 33, 32, 41, 55, 59, 34, 51, 54, 53, 36, then the range of values to calculate class interval is View solution Q. The largest numerical value is 85 and smallest numerical value is 65 and the classes desired are 9 then width of class interval is View solution Q. In the graphical representation of data, the ideographs are also called as View solution Q. The stem and leaf displaying technique is used to present data in View solution Q. The class interval classification method which ensures the data continuity is classified as View solution Q. The first step in constructing the frequency distribution is View solution Q. The distribution which requires inclusion of open ended classes is considered as View solution

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