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Paper: Basic statistics

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**Q1)**

1. Statistics is the word of latin language.
2. Numbers deals with Quantitive data.
3. Ordinal study deals with ordinal study deal with order.
4. clustering is the process which categorize data in different groups.
5. Histogram which construct on behalf of bins data is called.
6. The grading score of ILETS belongs with brand score measurement scale.
7. Peshawar temperature recorded at 32<sup>o</sup> F is the example of Interval scale.
8. Statistics has unlimited number of usage in advance research studies. **TRUE**
9. Number of dots in a line is the relevant example of countable data. **FALSE**
10. Non scale data do not belongs with the field of Statistics. **TRUE**

**Q2)**

**a) Differentiate between Descriptive & Inferential statistics with suitable examples.**

**And)**

**Descriptive statistics:** A descriptive statistic is a summary statistic that quantitatively describes or summarizes features from a collection of information, while descriptive statistics is the process of using and analyzing those statistics.

**Example:**

For **example**, the sum of the following data set is 20: (2, 3, 4, 5, 6). The mean is 4 (20/5). The mode of a data set is the value appearing most often, and the median is the figure situated in the middle of the data set.

**Inferential statistics:** Inferential statistical analysis infers properties of a population, for example by testing hypotheses and deriving estimates. It is assumed that the observed data set is sampled from a larger population.

**Example:**

With inferential statistics, you take data from samples and make generalizations about a **population**. For example, you might stand in a mall and ask a sample of 100 people if they like shopping at Sears.

**difference between descriptive and inferential**

**statistics.** Descriptive statistics describes sets of data. Inferential statistics draws conclusions about the sets of data based on sampling.

**b) Differentiate between Countable & Uncountable data with suitable examples.**

**And) Countable nouns** can be expressed in plural form, usually by adding an "s" to the singular form. An **uncountable noun** is a **noun** that usually cannot be expressed **in a** plural form. Its not something you can quantify. For **example**, "milk," "water," "air," "money," "food" are **uncountable nouns**.

**Q3)**

**a) Elaborate the word Frequency Distribution precisely.**

**Ans)** In statistics, a **frequency distribution** is a list, table or graph that displays the **frequency** of various outcomes in a sample. Each entry in the table contains the **frequency** or count of the occurrences of values within a particular group or interval.

**Example:** A **frequency distribution** table is one way you can organize data so that it makes more sense. For **example**, let's say you have a list of IQ scores for a gifted classroom in a particular elementary school. The IQ scores are: 118, 123, 124, 125, 127, 128, 129, 130, 130, 133, 136, 138, 141, 142, 149, 150, 154.

Q3b

93, 89, 75, 97, 75, 47, ~~65~~ 73, 40, 100, 42,  
39, 75, 13, 39, 89, 78, 32, 72, 51, 21, 92,  
45, 29, 58, 16, 31, 6, 82, 76, 10, 10, 32, 2, 25,  
98, 94, 93, 91, 68, 20, 19, 61, 37, 98, 72,  
61, 72, 19, 81, 78.

we find that the biggest number  
is 100 and the smallest number is  
2 so that the range is  $100 - 2 = 98$

$$\text{Class interval} = \frac{\text{Max} - \text{Min}}{\text{No. of Classes}}$$

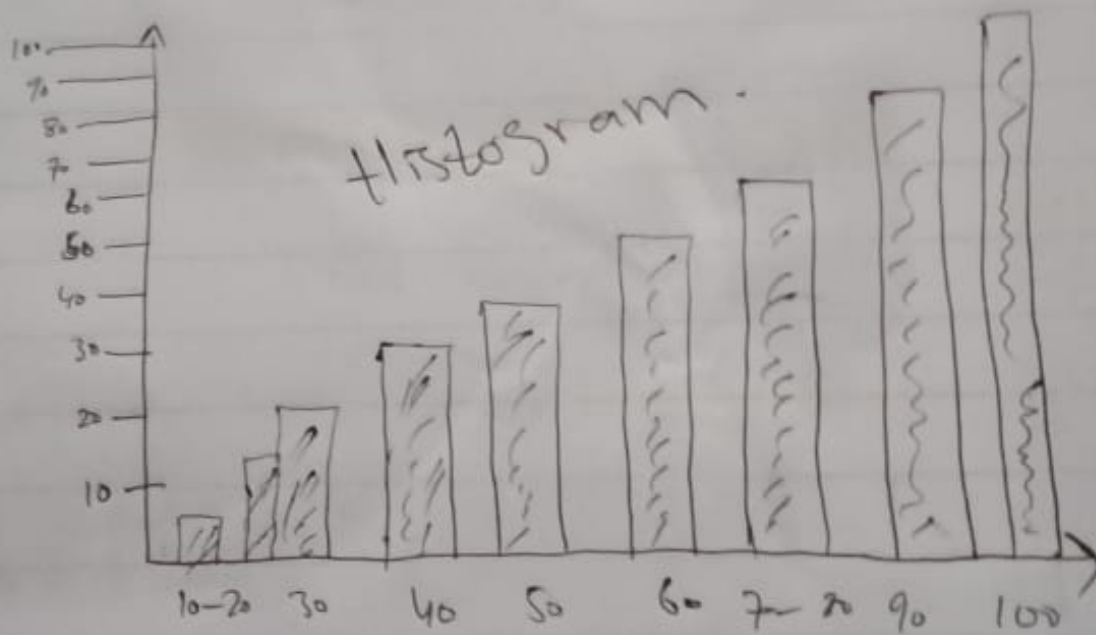
$$= \frac{100 - 2}{7}$$

$$= \frac{98}{7} = 14$$

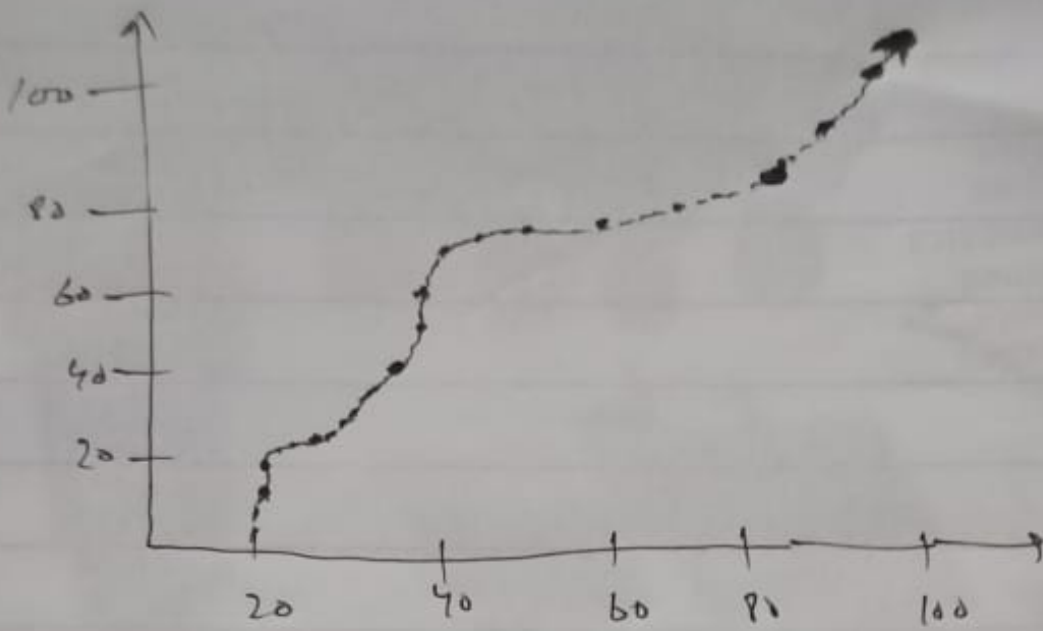
Class boundary = lower limit of 2nd class -  
upper limit of 1st class.

$$0.5 = \frac{17 - 16}{2} = \frac{1}{2} = \text{class boundary.}$$

No. of class	Frequency	Class boundary	Midpoint
(1) 2-16	6	1.5 - 16.5	9
17-31	7	16.5 - 31.5	24
32-46	8	31.5 - 46.5	39
47-61	5	46.5 - 61.5	54
62-76	9	61.5 - 76.5	69
77-91	7	76.5 - 91.5	84
92-106	8	91.5 - 106.5	99







Ogive Curve