

Paper

Biostatistics

ID #

13430

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Ans 1

ungrouped data for  
frequency distribution

No tally frequency

0	1	1
1		4
2		8
3		14
4		7
5		5
6		4
7		3
8		2
9		1
10		1

for group data frequency distribution

class	f
0-2	13
2-4	21
4-6	9
6-8	5
8-10	2
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H.M for group data =  $\frac{\sum f x^2}{\sum f x}$

class	f	x	f/x
0-2	13	1	13
2-4	21	3	7
4-6	9	5	1.8
6-8	5	7	0.71
8-10	<del>2</del> 28	9	$\frac{0.22}{22.73}$

So H.M for group data

$$\frac{\sum f x^2}{\sum f x}$$

$$= \frac{50}{22.73}$$

$$= 2.19$$

*(Handwritten scribbles)*

11. Find mean and characteristic for group frequency distribution

$$\text{Mean} = \bar{x} = \frac{\sum fx}{n}$$

Class	f	x	fx
0-2	13	1	13
2-4	21	3	63
4-6	9	5	45
6-8	5	7	35
8-10	2	9	18
	50		174

$$\text{Mean} = \bar{x} = \frac{\sum fx}{n}$$

$$\bar{x} = \frac{174}{50}$$

$$\bar{x} = 3.48 \text{ Ans.}$$

# Exercice 2

W.C.2

class	af	Cumulative Frequency
2-4	3	50
6-8	13	47
10-12	6	<del>25</del> 34
14-16	10	28
18-20	5	18
22-24	3	13
26-28	5	10
30-32	3	5
34- <del>36</del> 36	2	2
	<u>50</u>	

~~Q1 = L +~~

$$Q1 = L + \frac{(N/4) - cf}{f}$$

$$Q1 = L + \frac{50/4 - cf}{f}$$

$$Q1 = 25.5 + \frac{(22)}{5}$$

$$Q1 = 25.5 + 4.4$$

$$Q1 = 29.9$$

$$Q2 = L + \frac{2}{5}$$

$$= 25.5 + \frac{50-3}{5}$$

$$= 25.5 + 9.4$$

$$= ~~31~~ 34.9$$

$$Q3 \quad L + \frac{50 \times 3 - 3}{\frac{2}{5}}$$

$$= 25.5 + \frac{75 - 3}{5}$$

$$= 25.5 + 14.4$$

$$= 39.9$$

$$Q4 \quad L + \frac{50 \times 4 - 3}{\frac{2}{5}}$$

$$= 25.5 + \frac{100 - 3}{5}$$

$$= 25.5 + \frac{97}{5}$$

$$= 25.5 + 19.4$$

$$= 44.9$$

$$Q5 \quad = L + \frac{50 \times 5 - 3}{\frac{2}{5}}$$

$$= 25.5 + \frac{125 - 3}{5}$$

$$= 25.5 + \frac{122}{5}$$

$$= 25.5 + 24.4$$

$$= 49.9$$

$$\begin{aligned}
 Q6 \quad & L + \frac{50 \times 6 - 3}{\frac{2}{5}} \\
 &= 25.5 + \frac{150 - 3}{5} \\
 &= 25.5 + \frac{147}{5} \\
 &= 54.9
 \end{aligned}$$

$$\begin{aligned}
 Q7, & \Rightarrow L + \frac{50 \times 7 - 3}{\frac{2}{5}} \\
 &= 25.5 + \frac{175 - 3}{5} \\
 &= 25.5 + 34.4 \\
 &= 59.9
 \end{aligned}$$

$$\begin{aligned}
 Q8, \quad & L + \frac{50 \times 8 - 3}{\frac{2}{5}} \\
 &= 25.5 + \frac{200 - 3}{5} \\
 &= 25.5 + 39.4 \\
 &= 64.9
 \end{aligned}$$

$$\text{Q 9} = C + \frac{50 \times 9 - 3}{2}$$

$$= 25.5 + \frac{225 - 3}{5}$$

$$= 25.5 + \frac{222}{5}$$

$$= 25.5 + 44.4$$

$$= 69.9$$

$$\text{Q 10} = C + \frac{50 \times 10 - 3}{2}$$

$$= 25.5 + \frac{250 - 3}{5}$$

$$= 25.5 + 49.4$$

$$= 74.9$$

$$\text{Q 11} = C + \frac{50 \times 11 - 3}{2}$$

$$= 25.5 + \frac{275 - 3}{5}$$

$$= 25.5 + 54.4$$

$$= 79.9$$



$$\begin{aligned}
 Q 12 &= L + \frac{50 \times 12}{2} - 3 \\
 &= 25.5 + \frac{297}{5} \\
 &= 25.5 + \del{59.4} \\
 &= 84.9
 \end{aligned}$$

$$\begin{aligned}
 Q 13 &= L + \frac{50 \times 13}{2} - 3 \\
 &= 25.5 + \frac{322}{5} \\
 &= \del{25.5} + 64.4 \\
 &= 89.9
 \end{aligned}$$

$$\begin{aligned}
 Q 14 &= L + \frac{50 \times 14}{2} - 3 \\
 &= 25.5 + \frac{347}{5} \\
 &= 25.5 + 69.4 \\
 &= 94.9
 \end{aligned}$$

$$Q 15 = L + \frac{50 \times 15}{2} - 3$$

$$= 25.5 + \frac{372}{5}$$

$$= 25.5 + 74.4$$

$$= 25.5 + 74.4$$

$$= 99.9$$

$$Q 16 = L + \frac{50 \times 16}{2} - 3$$

$$= 25.5 + \frac{397}{5}$$

$$= 25.5 + 79.4$$

$$= 104.9$$

$$Q 17 = L + \frac{50 \times 17}{2} - 3$$

$$= 25.5 + \frac{422}{5}$$

$$= 25.5 + 84.4$$

$$= 109.9$$

$$Q 18 = \frac{L + 50 \times 18 - 3}{\frac{2}{5}}$$

$$= 25.5 + \frac{447}{5}$$

$$= 25.5 + 89.4$$

$$= 114.9$$

$$Q 19 = \frac{L + 50 \times 19 - 3}{\frac{2}{5}}$$

$$= 25.5 + \frac{472}{5}$$

$$= 25.5 + 94.4$$

$$= 119.9$$

$$Q 20 = \frac{L + 50 \times 20 - 3}{\frac{2}{5}}$$

$$= 25.5 + \frac{497}{5}$$

$$= 25.5 + 99.4$$

$$= 124.9$$

**Q03:** 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 analysing those statistics

Interval scale refers to the level of measurement in which the attributes composing variables are measured on specific numerical scores or values and there are equal distances between attributes

: Q3 part a: Biostatistics are the development and application of statistical methods to a wide range of topics in biology. It encompasses the design of biological experiments, the collection and analysis of data from those experiments and the interpretation of the results. Statistical inference is the process of using data analysis to deduce properties of an underlying distribution of probability. Inferential statistical analysis infers properties of a population, for example by testing hypotheses and deriving estimates

Primary data are those which are collected a fresh and for the first time and thus happens to be original in character.

It is the real time data which are collected by the researcher himself.