

week 3 Representation

[histograms - different charts]

Objective :

learning about histograms and different charts

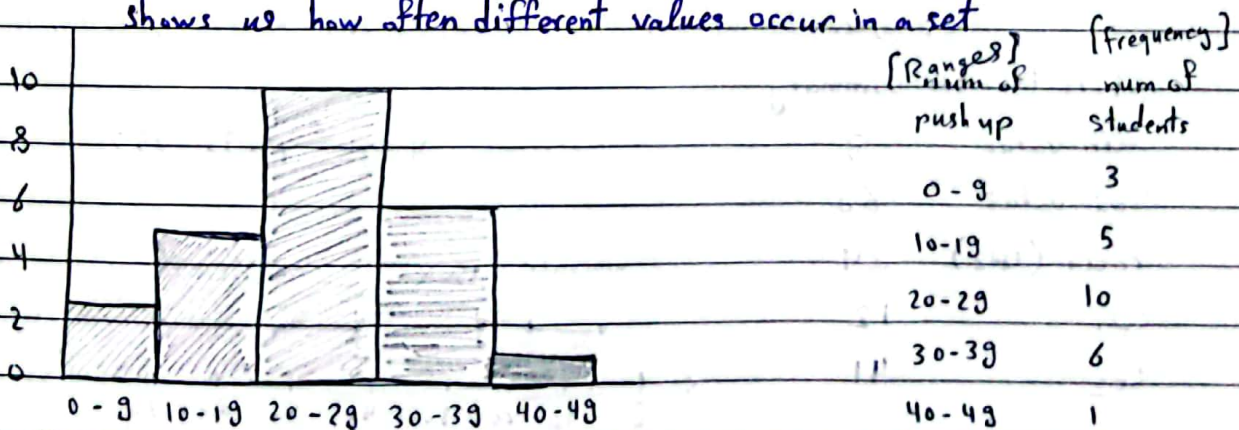
Documentation *check for more information

video 1 Types of Graphs and When to use them

- Bar Graph Show the number in categories
- Circle Graph Compare parts of the data to the whole
- Double Bar Graph Compare two or more sets of data
- Box Whiskers Plot Show measures of variation
- Histogram Show frequency of data divided into intervals
- line Graph Show change over time
- line plot Show frequency of data on a number line

video 2 Histograms explained! How to make them

shows us how often different values occur in a set



visualize data and see patterns within it

X-axis y-axis

video ③ How to make a Stem and Leaf plot / Diagram

Stem and leaf plot

Organise Data by using the place values of the numbers

10, 11, 14, 21, 23	stem	leaf	leaf to greatest
	1	0 1 4	
	2		
	3	1 3	

Key $1|4 = 14$

large numbers can be like

96, 98, 108, 115, 117

stem	leaf
9	6 8
10	8
11	5 7

Key = $10|8 = 108$

decimals

5.6, 5.8, 6.2, 7.8, 7.8

stem	leaf
5	6 8
6	2
7	8 8

Key = $5|6 = 5.6$

video ④ How to make a Box and Whisker Plot

3, 5, 5, 6, 11, 12, 14, 14, 16, 20, 23, 25, 28, 35, 36, 37, 41, 43, 48
60, 82, 89

Five Number summary

Min value 3

4 equal parts 25%

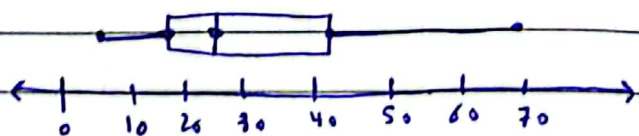
Max value 89

Median (Q_2) 24

Q_1 12

Q_3 41

Whisker Box Whisker



IQR $Q_3 - Q_1 = 29$

the middle half of the data

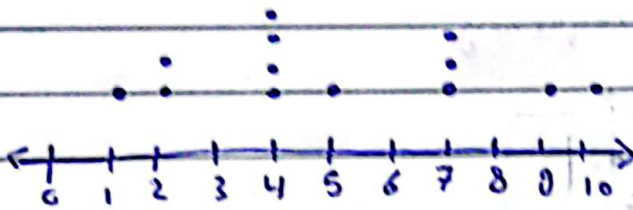
varies by no more than 29

Date: \ \

video 5 How to make a dot plot

1, 2, 2, 4, 4, 4, 4, 5, 7, 3, 7, 9, 10

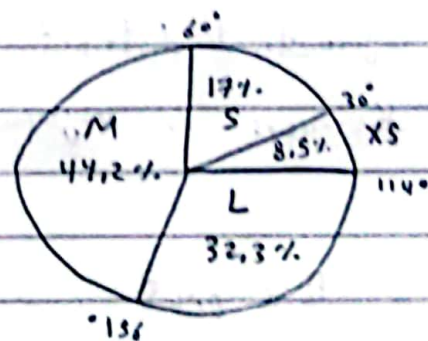
quick visual representation of how the study time is distributed among the students



video 6 What is Pie chart?

type of graph that's divided into slices
unlike other graphs the value that make up each piece
are expressed in percentages

category	frequency		
Size	number	degree	percentage
XS	5	30°	8,5 %
S	10	60°	17 %
M	26	156°	44,2 %
L	19	114°	32,3 %
	(60)	360°	102 %



1 $\rightarrow 6^\circ$

1 $\rightarrow 1,7\%$

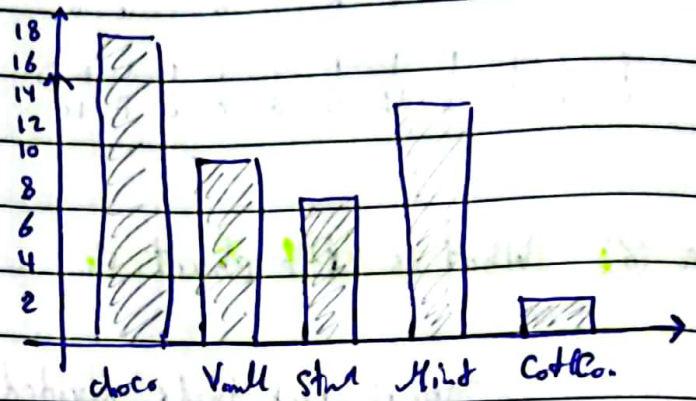
video ⑦ What is a Bar chart?

Compare a different type of information

X-axis represents type of variable qualitative

Y-axis represents Frequency

flavour	voter
choco	18
Vanilla	10
Strawberry	8
Mint	12
Cottoncandy	2

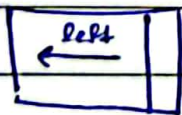


video ⑧ Symmetry and Skewness

Symmetrical distribution if it can be divided into two equal sizes

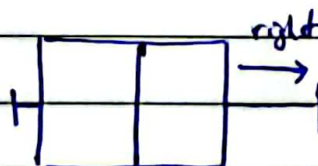
Skewness is asymmetry skewed to left skewed to right

Box plot



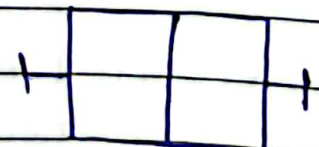
Unequal Box

size of larger
determines the skew



equal Box

longer whisker
determines the skew



Symmetrical

Symmetry point will always be at the median
and the mean = median

Skewed mean is closer to tail if skewed to left
mean < median
and if skewed to the right
mean > median

video ③ What is Heat map?

graphical representation of data where values are expressed as colours
it allows for a large volume of data to be communicated almost instantly

Benefits of it: enhanced communication with stakeholders
high engagement with a target audience
the ability to drive valuable insights from vast data sets

video ⑩ What is a Violin Plot?

a method to plotting numeric data
provides a visualization of data distribution

Wider section is a higher density more data
narrower section lower density