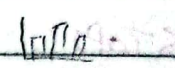








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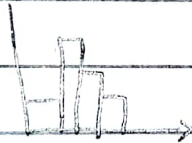
التاريخ : / /

Subject : موضوع الدرس :

Types of graphs:

- 1) Bar Graph:- Shows The number in categories 
- 2) Circle Graph:- Compare Parts of data To The whole 
- 3) Double Bar Graph:- Compare Two or more sets of data 
- 4) Box whiskers plot:- Show measures of variation 
- 5) Histogram:- show frequency of data divided into intervals 
- 6) Line Graph:- Show change over time 
- 7) Line Plot:- Show frequency on a number line 

Histogram:



- STEPS:
- 1) organize The numerical data
 - 2) Define The ranges
 - 3) Draw The bars To represent The Freq of data in The range

x-axis for The range

y-axis for The frequency

* Histogram For continuous data and The bars Touch each other

* Stem-and-Leaf plot

Shapes:- Normal distribution - Skewed left/right - Bimodal / multimodal

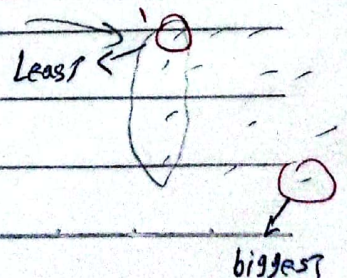
Organizes Data by using The Place values of The Numbers

STEPS:-

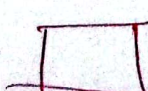
- 1) Sort Least To greatest
- 2) Take The Ten's From 1st column as Stem
- 3) add The Leaf

in a row
↓

each range 0 → 9 (10 → 19) (20 → 29) ...



* Leaf is The first digit in one's Place

Key stem | Leaf = 

Date: / /

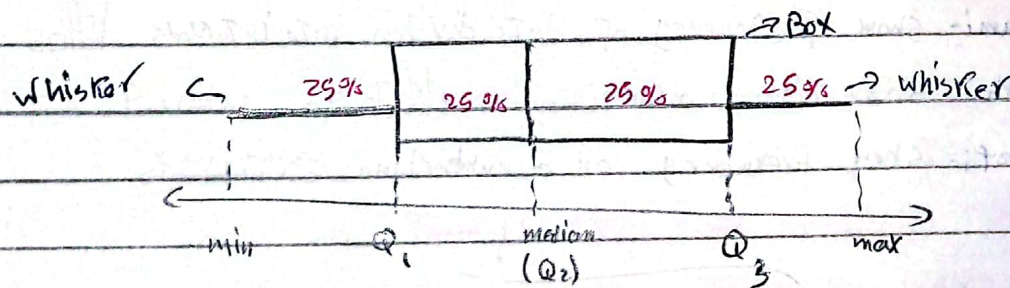
التاريخ: / /

Subject: موضوع التمرين:

Box - and - whisker Plot

Steps:-

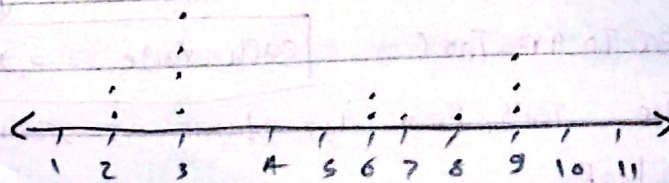
- 1) Find Five Number Summary (min - max - median - Q_1 - Q_3)
- 2) marking a number line The plot The Five Number Summary
- 3) construct The Box Q_1 - Q_3 → The separate a line median



IQR → $Q_3 - Q_1$

Dot Plot :-

- 1) Draw a Number Line (from min to max value)
- 2) add dots of req of data on the line




Date : / /

Subject :

التاريخ : / /

موضوع الدرس :

Pie chart :- Type of graph that is divided into slices
Like a pizza 

Steps

- 1) make a Table of category and The Frequency
- 2) Find The Total Freq
- 3) Find The degrees

$$\frac{F_i}{F_t} \times 360^\circ$$

- 4) The Percentage

$$\frac{F_i}{F_t} \times 100\%$$

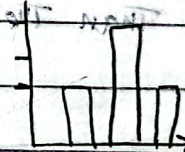
Bar chart (Bar graph)

X-axis

Qualitative data

Y-axis

Frequency



Steps :-

- 1) Define The data (Type / Freq)
- 2) add the Types To X-axis
- 3) add The Freq To Y-axis

Date : / /

التاريخ : / /

Subject :

موضوع التمرين :

Symmetry AND Skewness : Shape of graph



Symmetrical :- if it can be divided into Two equal sizes of same shape

Skewed :- NOT symmetrical

↳ Skewed To The Left :- if it has Long Tail Trails To LEFT

// " // right // " // " // " // " // " // " // right

Skewed To LEFT

Skewed To right

Stem
MD
Left

Lower number (left data)

have more freq

Than The Large

Large Number (right data)

have more freq

Than The Lower

Box
Plot



Symmetrical



For symmetrical \rightarrow mean = median

Skewed To Left \rightarrow mean < median

Skewed To right \rightarrow mean > median

Date : / /

Page : / /

Subject :

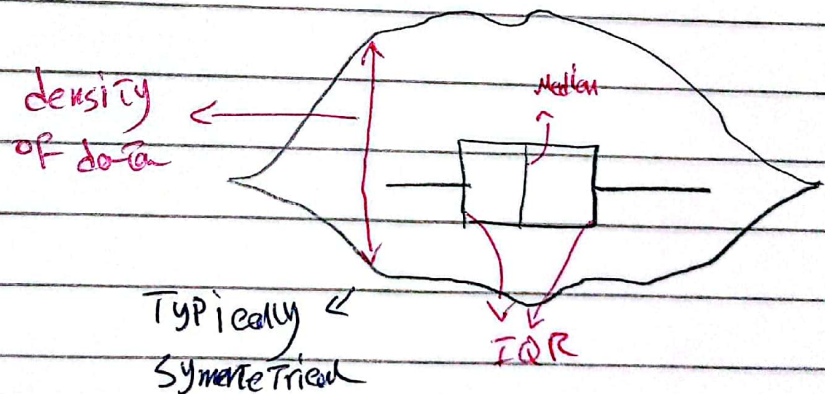
موضوع الدرس:

Heatmap: Graphical representation of data where values are expressed as colours

- Enhanced communication with stakeholders
- High Engagement with Target audience
- Valuable insights from data sets

~~Violin~~ Violin plot: method of plotting numerical data

combination of (Box Plot - Kernel Density Plot)



Better than Box Plot because:

- 1) ~~Box Plot~~ Provides visual representation of distribution and density