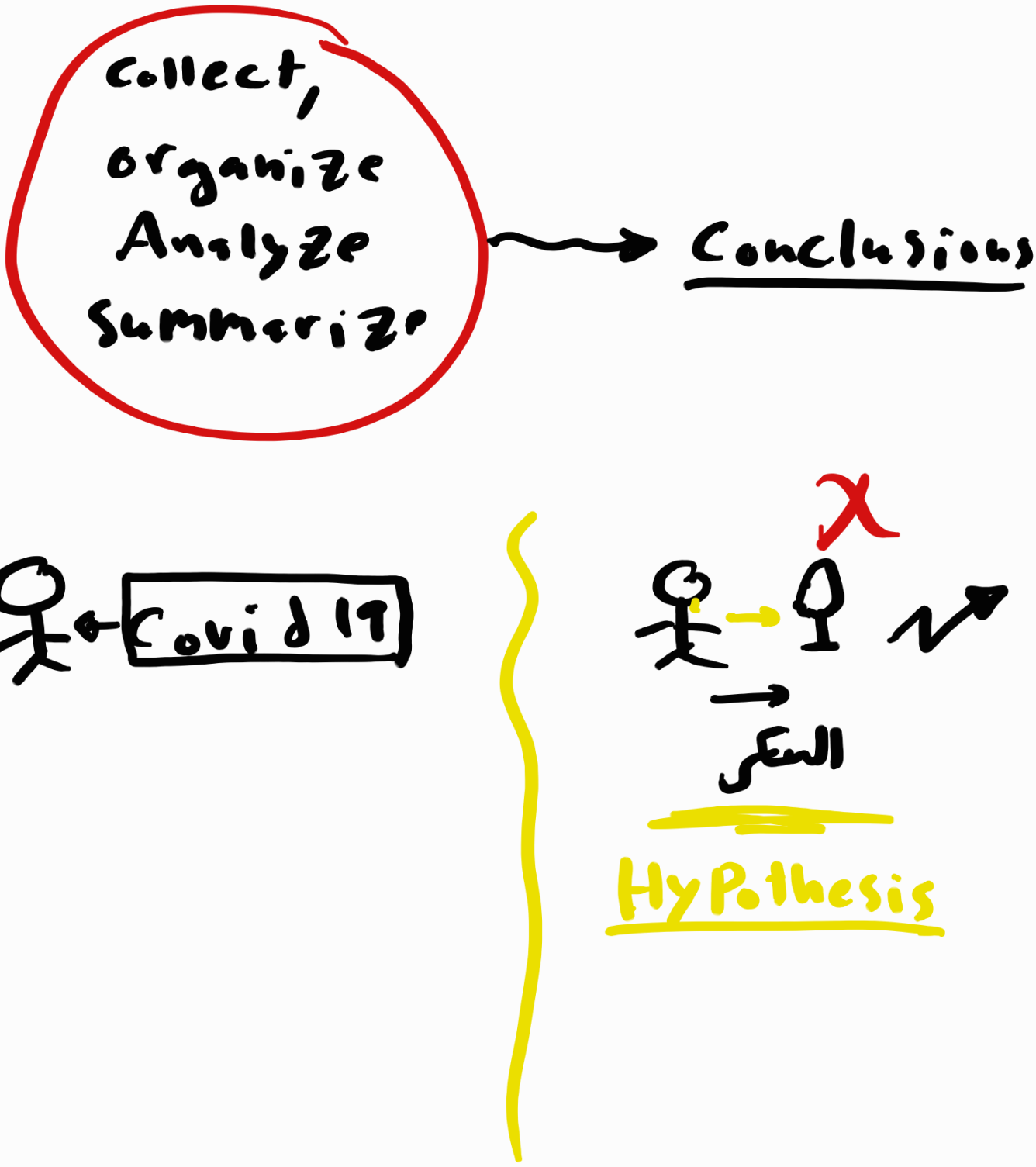
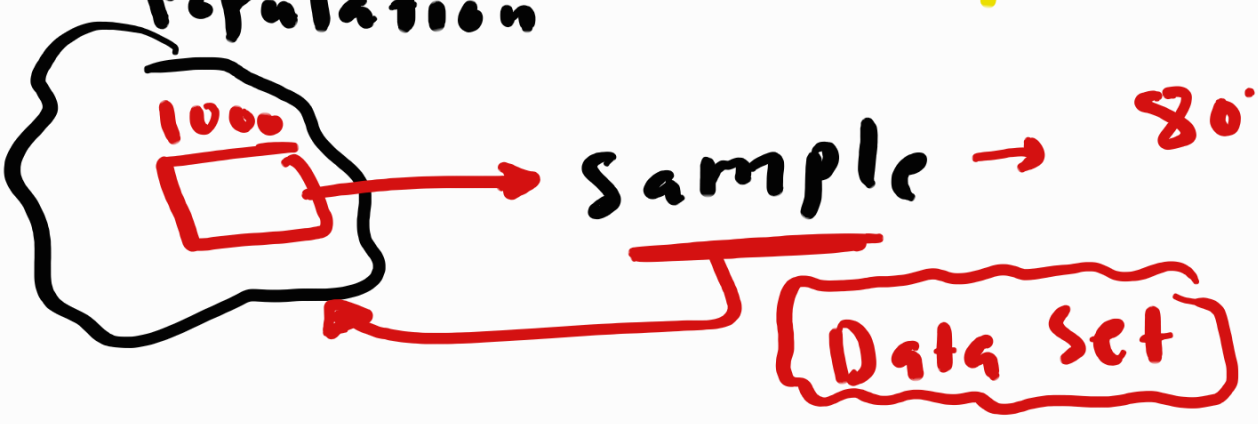
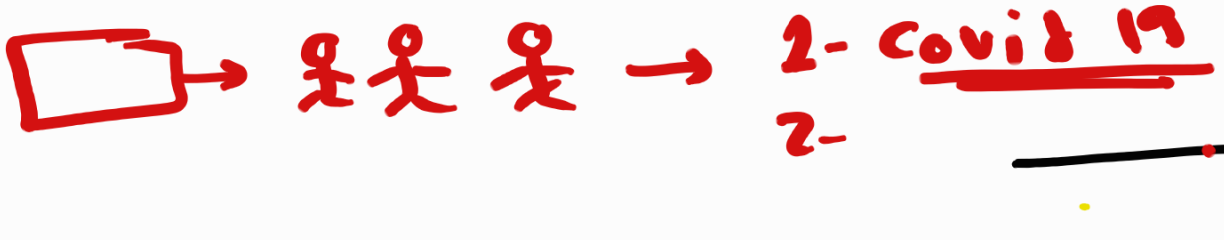
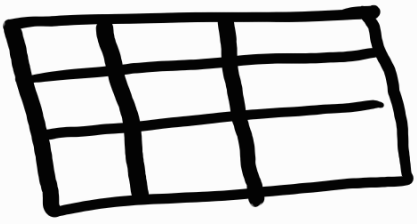
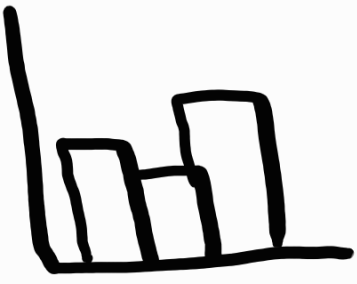


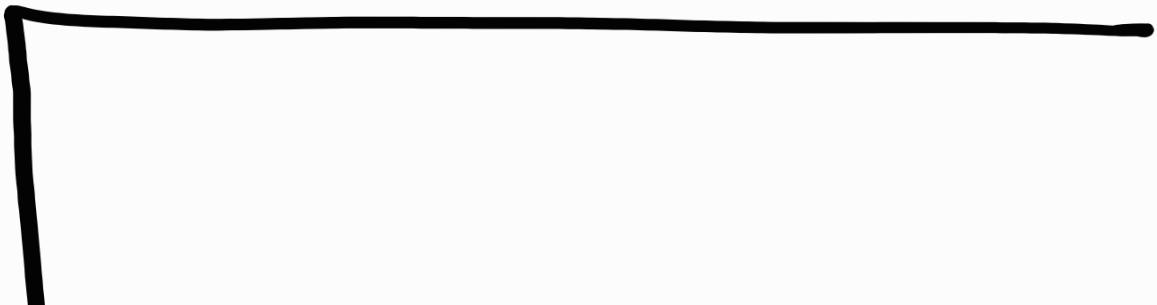
1- collect Data → Sample

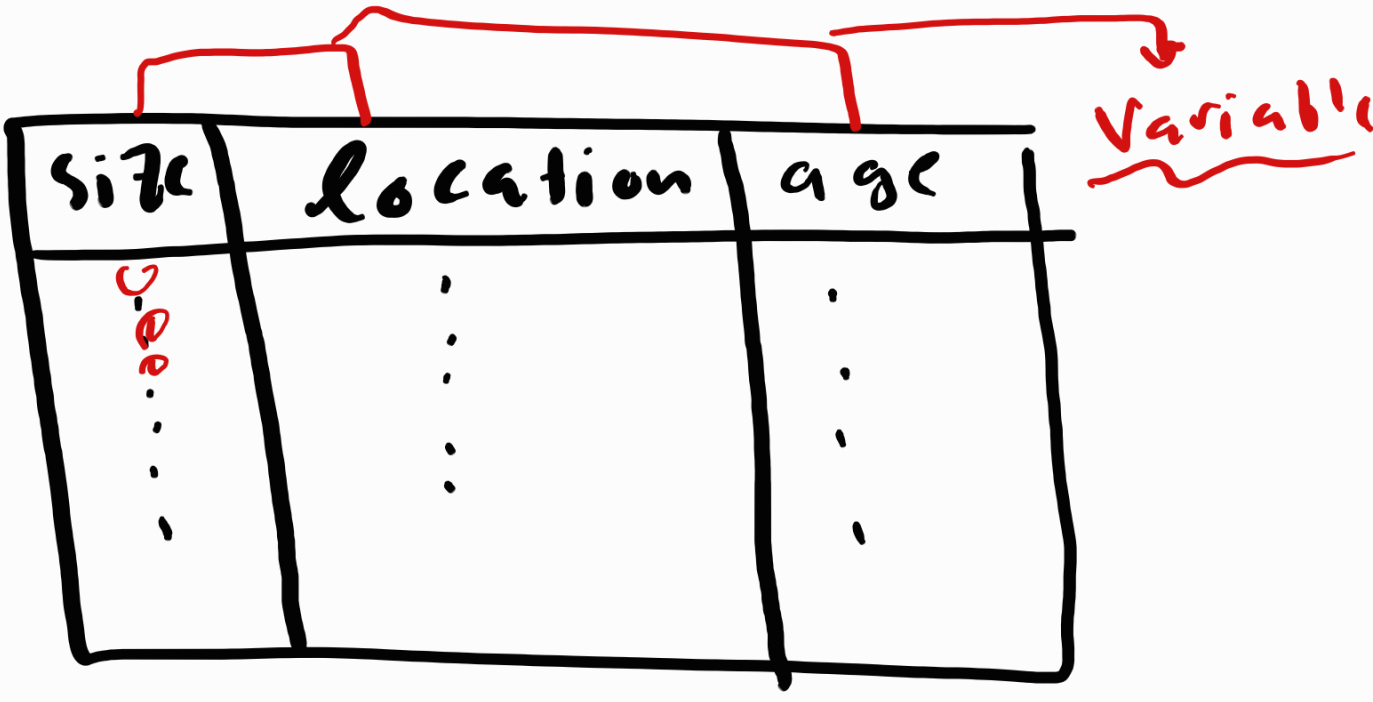




collect	organize	summarize	
≈	 	Mean = 172	172

Conclusion :





Size: 20, 36, 40..

Variables

Qualitative

النوعية

↓

Categorical

Quantitative

الكمية

↓

numerical

---

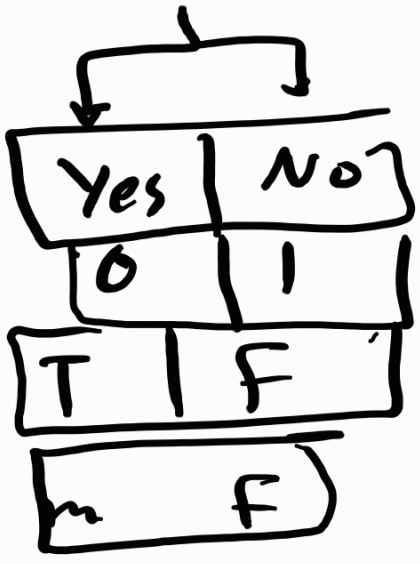
* Qualitative Variable:

→ Grade A A+ A- B B+ B- ...

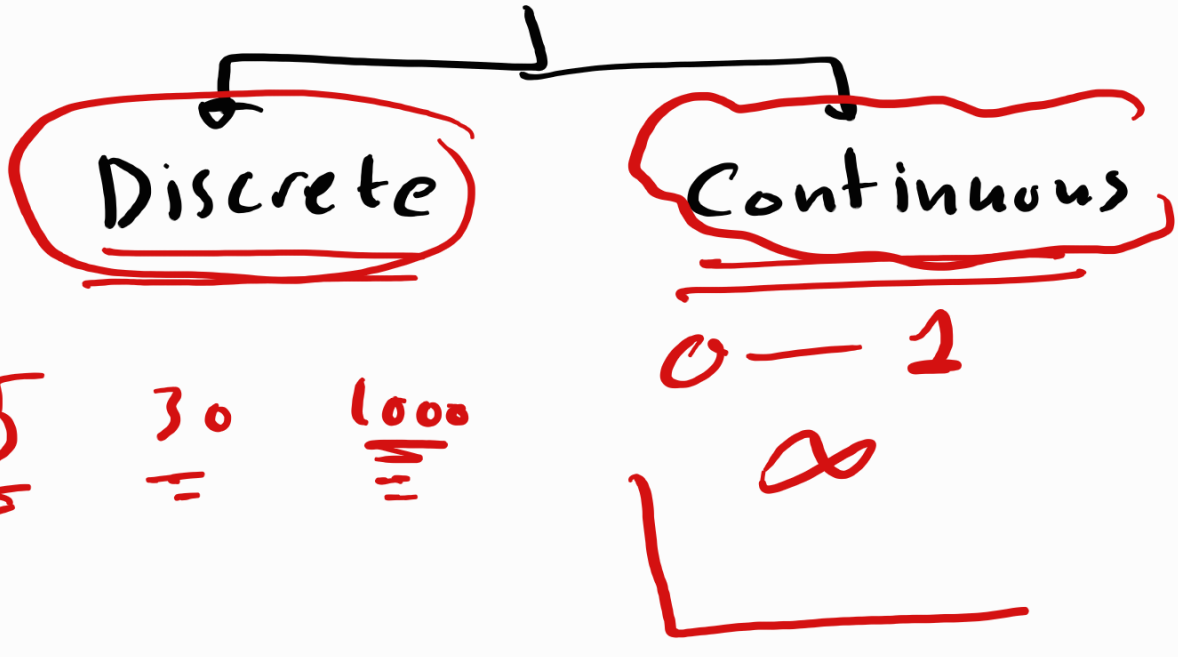
Ala a

Ali

Binary variable :



2- Quantitative



A B C D

25 30 40

2.3, 2.34

2.345

2.3456

[0-5]

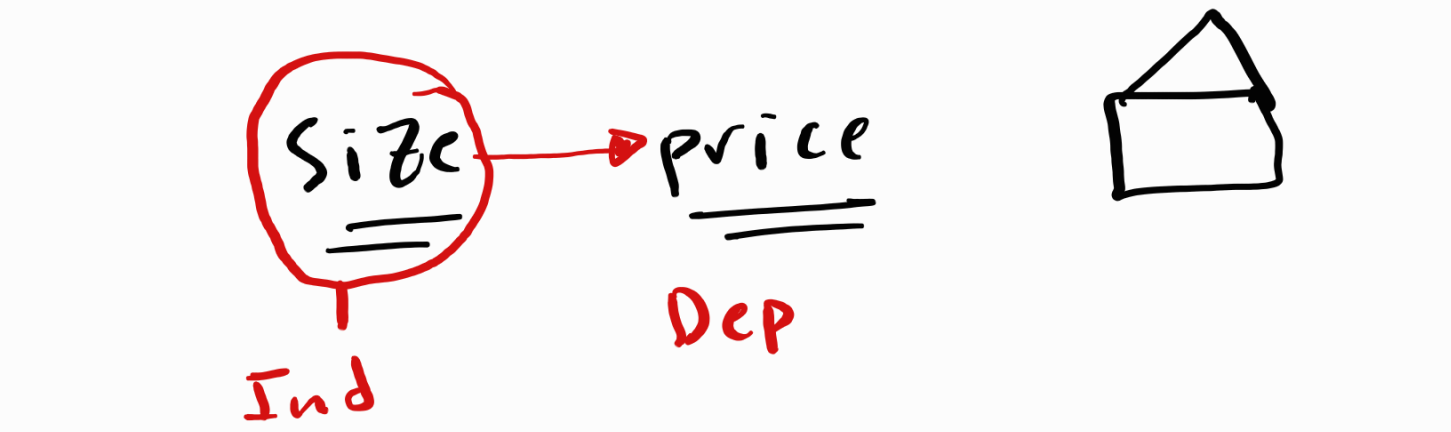
[6-7]

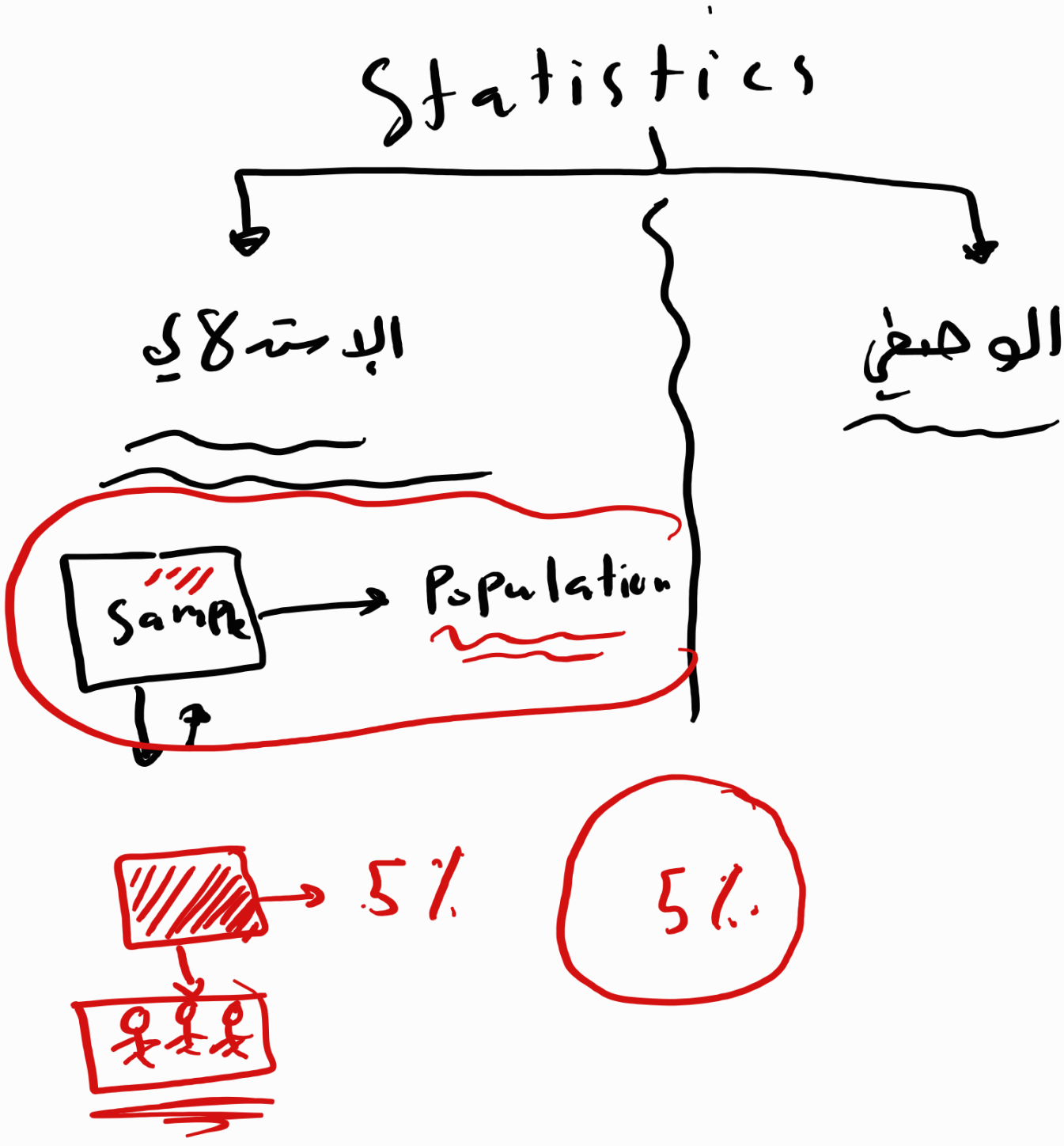
[ ]

Age

Name

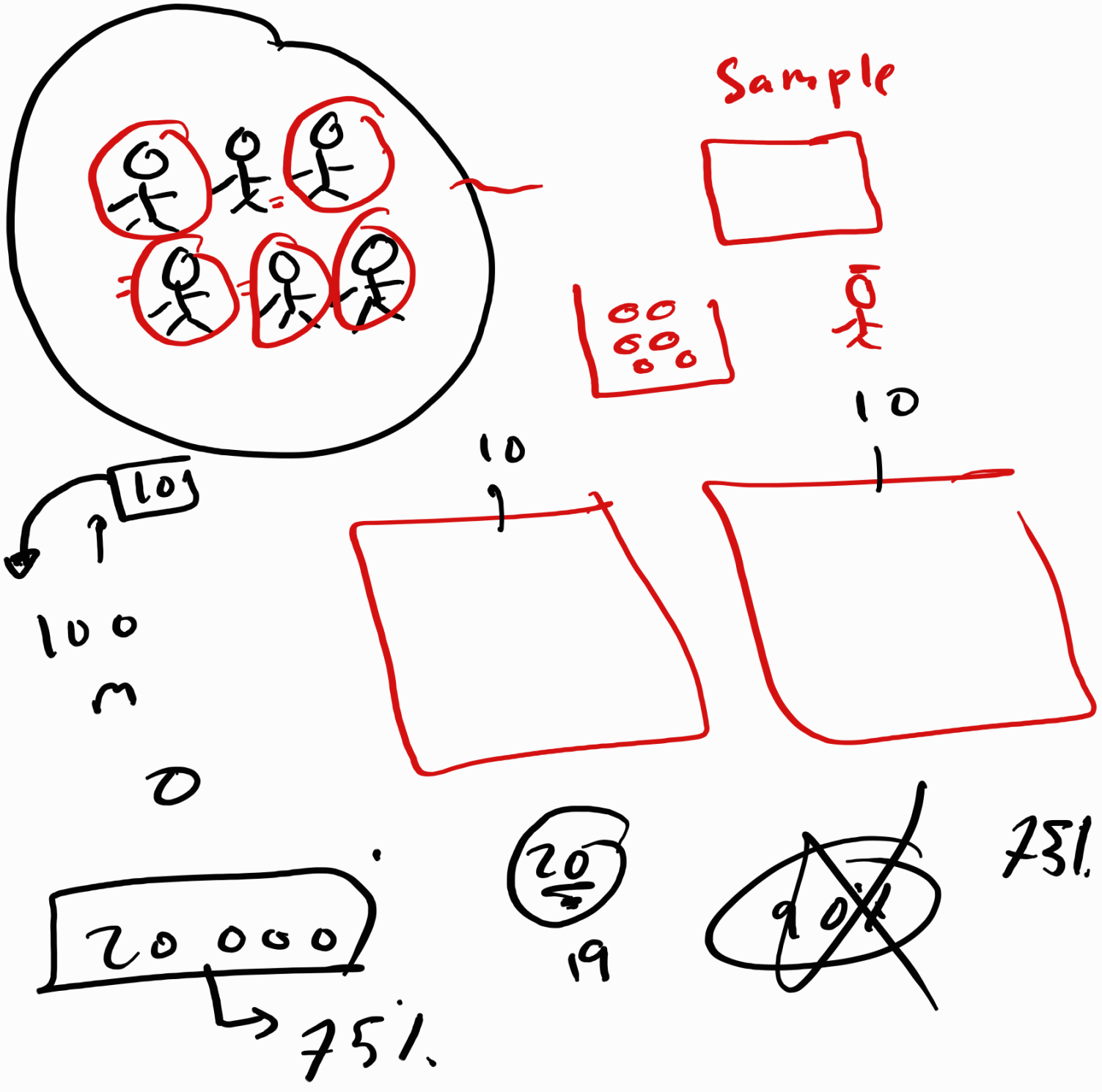
Independent & Dependent

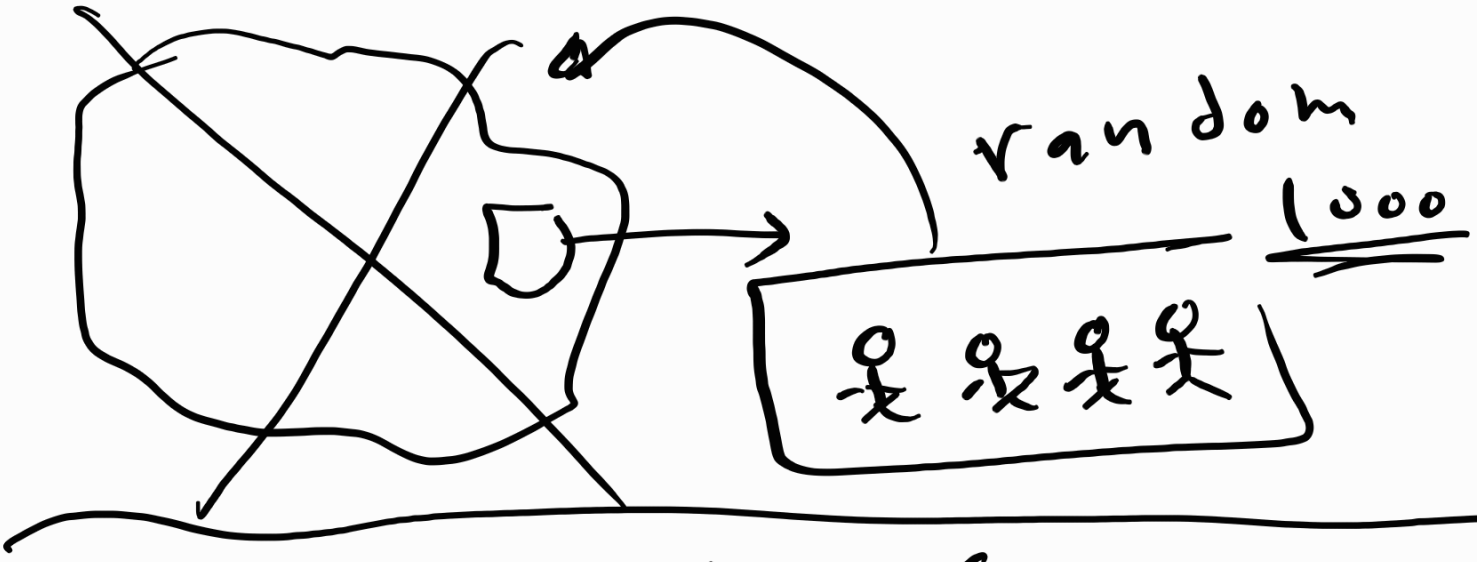



Statistics
الاستدلالي
الوصفي
Sample
Population
5%
5%

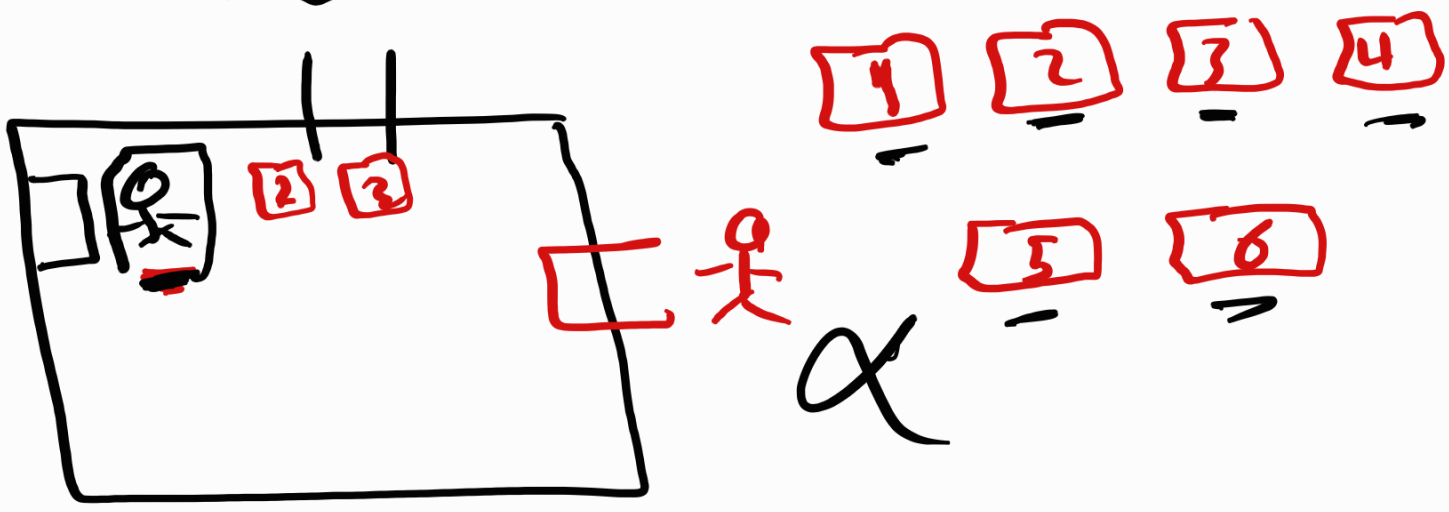
Sampling Techniques

→ Random sampling

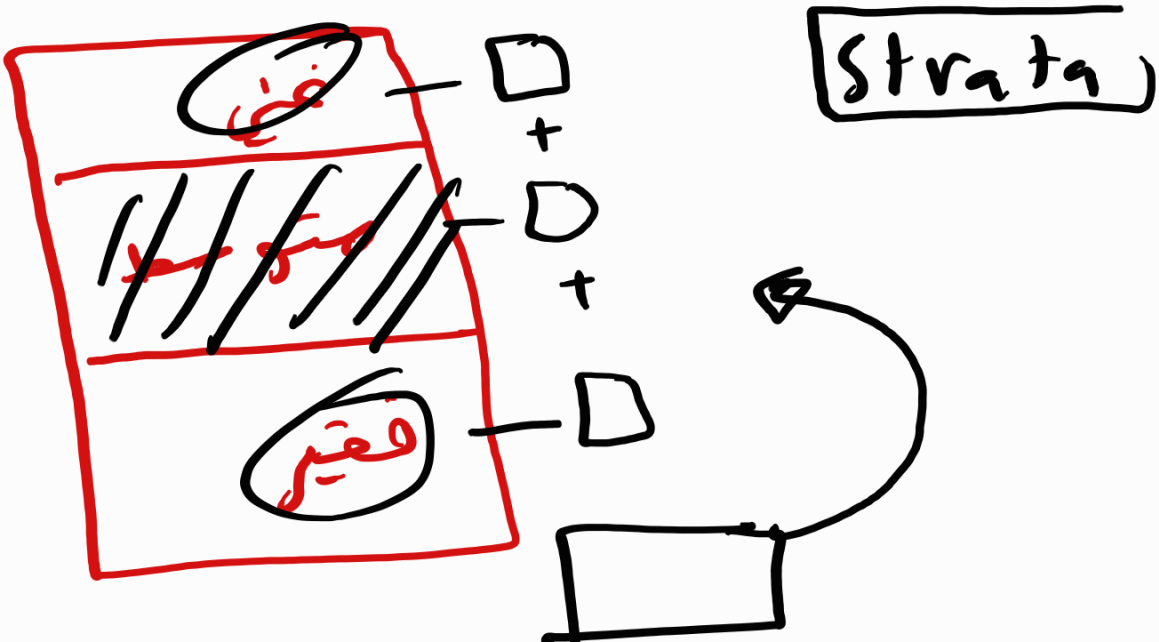




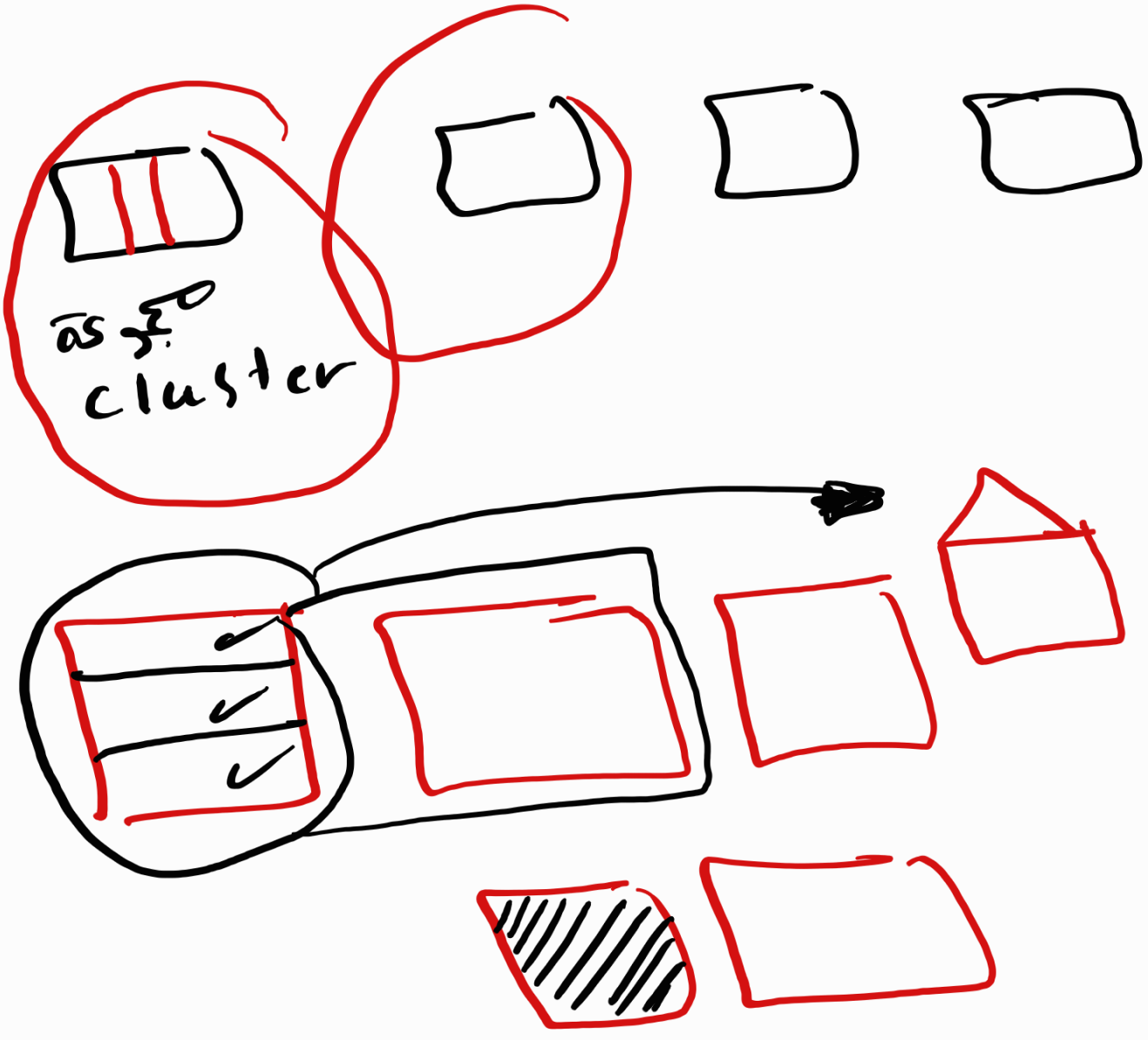
* Systematic Sampling:



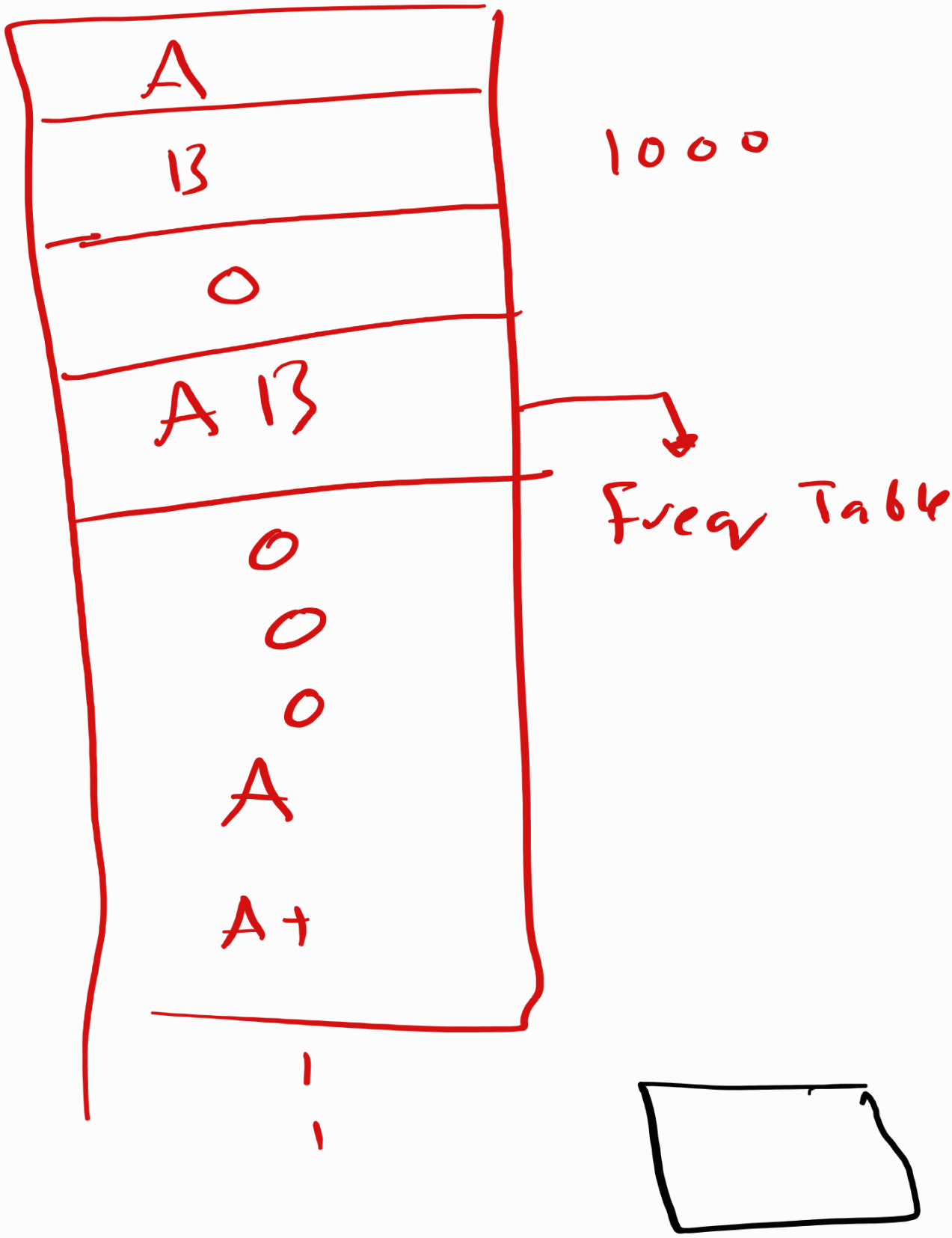
* Stratified sampling:



4- Cluster Sampling



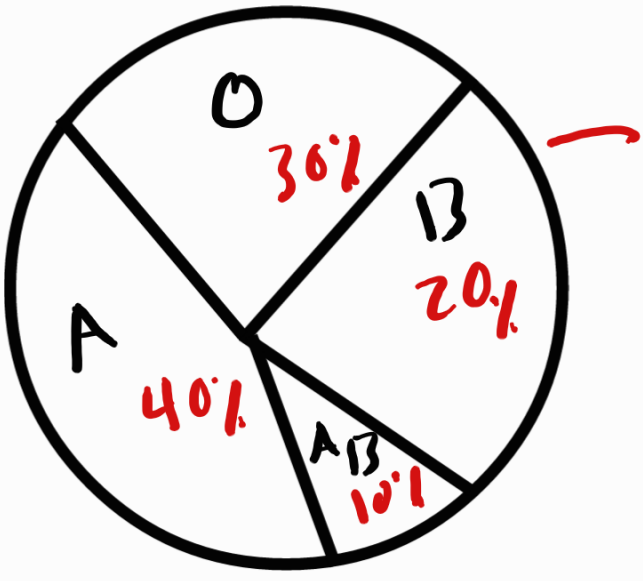
Descriptive statistics



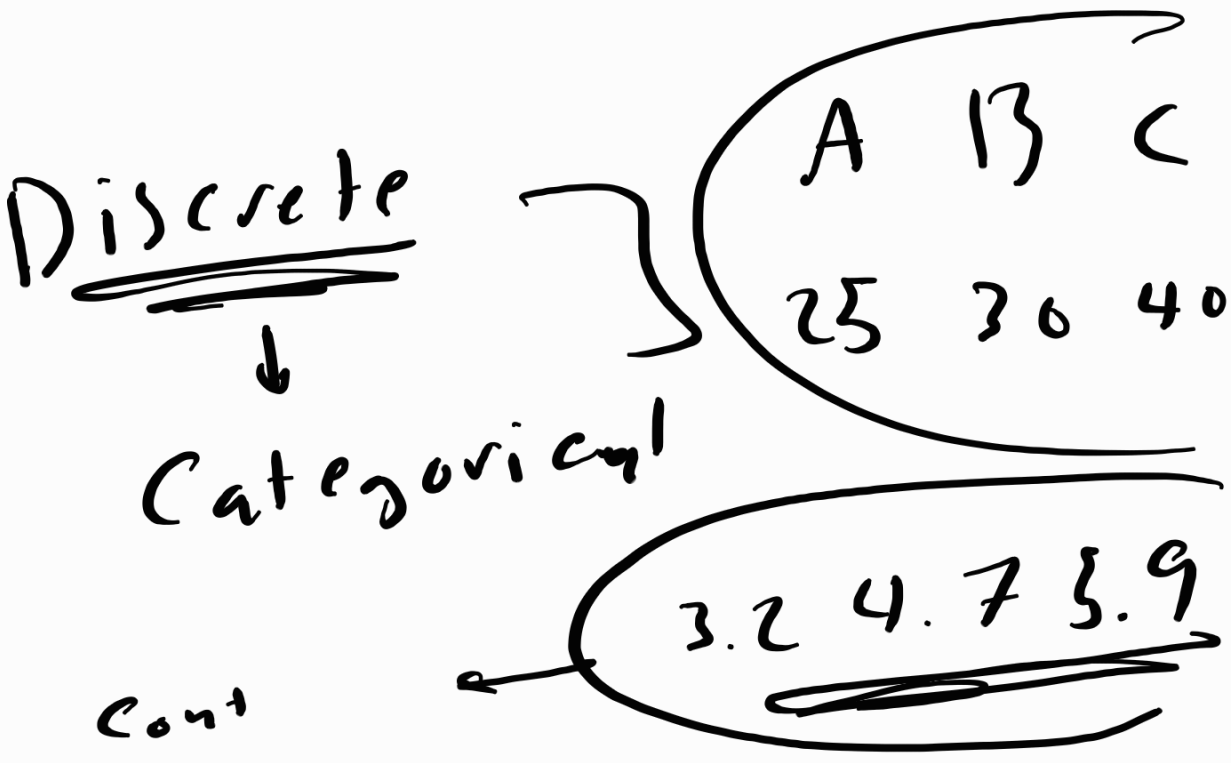
Class	Frequency
A	30
B	40
O	55

class	Freq	relative freq	percent %
A	5	$\frac{freq}{n}$ $\frac{5}{25} = 0.2$	r.f × 100% 20%
B	7	$\frac{7}{25} = 0.28$	28%
O	9	$\frac{9}{25} = 0.36$	36%
AB	4	$\frac{4}{25} = 0.16$	16%
Totale	25	1	100

Data → dataset → Freq Tabl



DATA Visualization

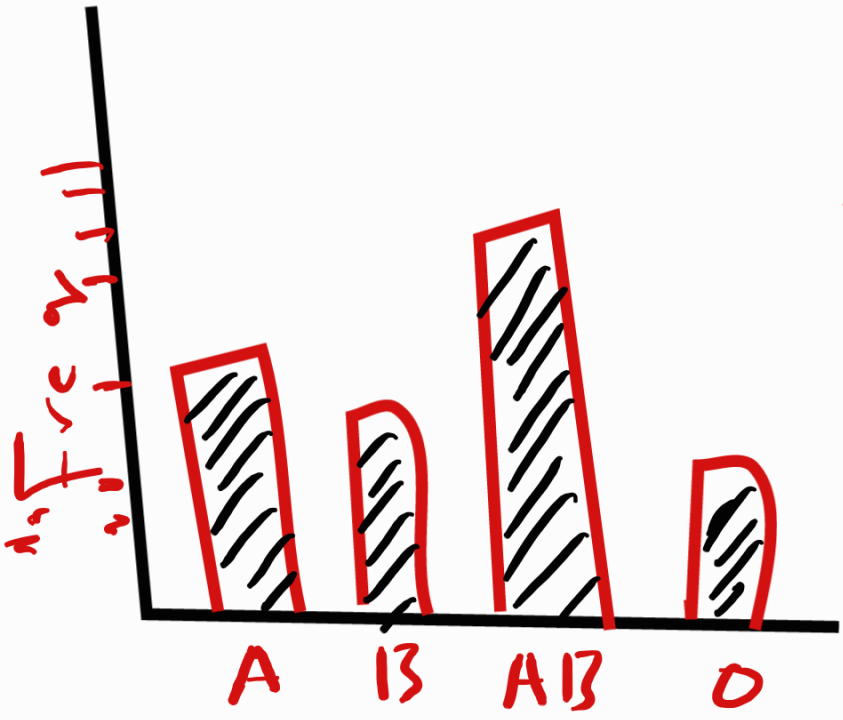


2- Bar chart :

الطلب
200

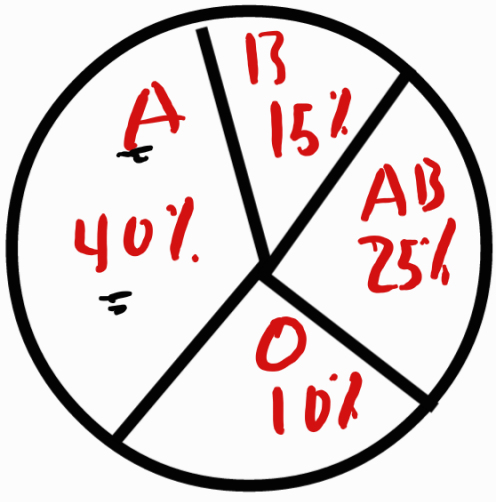
20 A
30 B

→ Qualitative
+
Discrete



Class
|
الدرجة

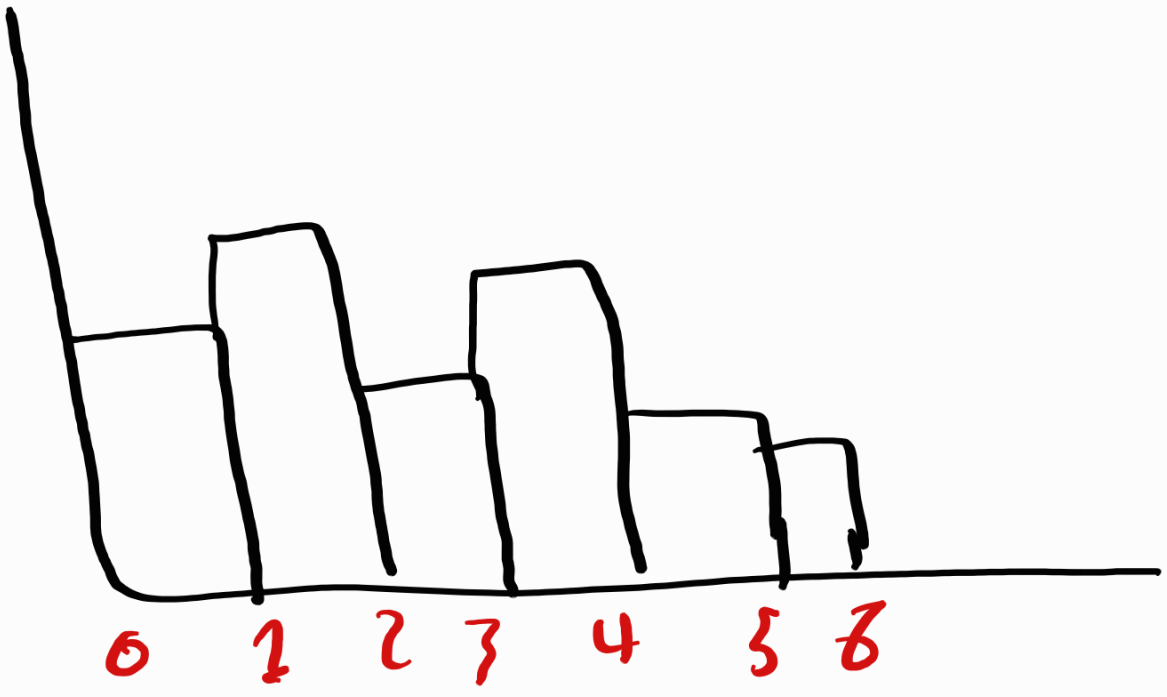
2- Pie chart



100%

3- Histogram

→ Continuous



[ ]

[ ]

[ ]

* weight →

x

x^{th}

63.1 , 63.2, 64 , 64.3

65.4 , 65.2 . . .

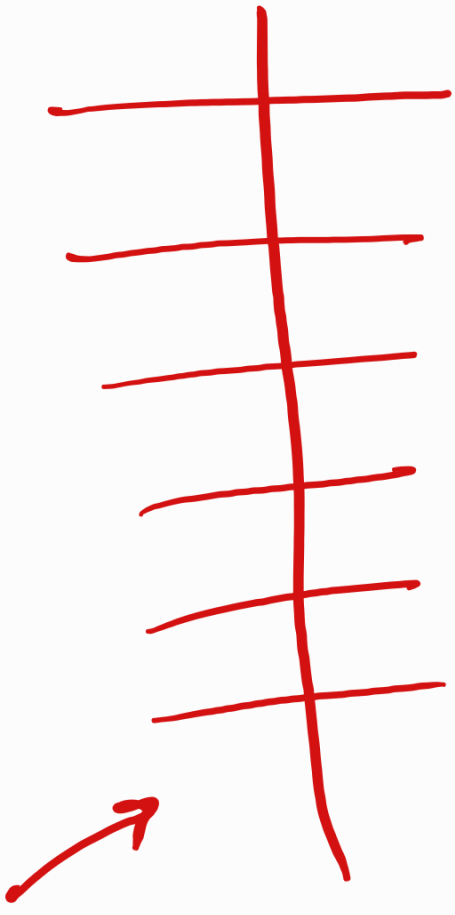
X

70.4

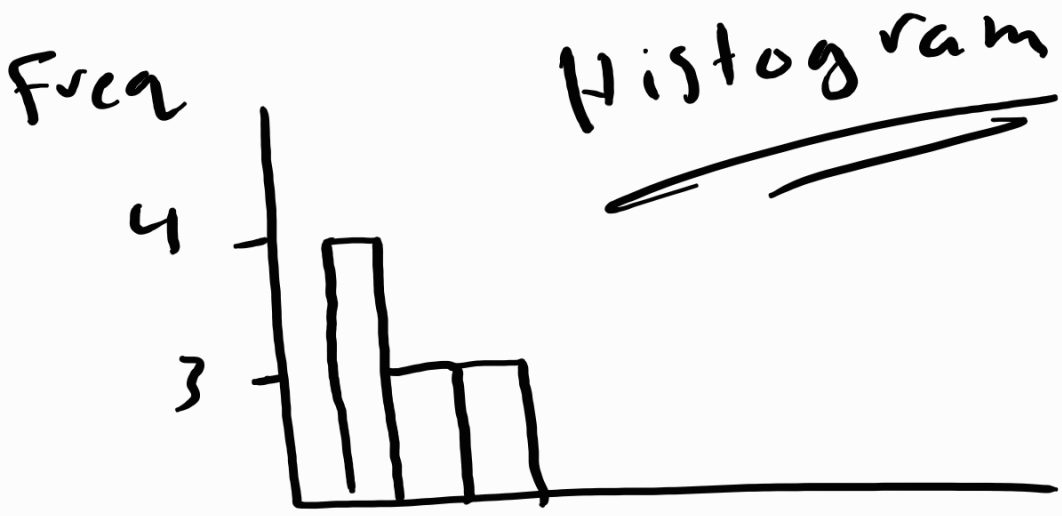
71.5

73.6

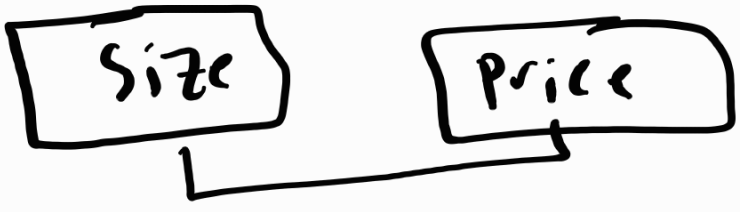
80.9



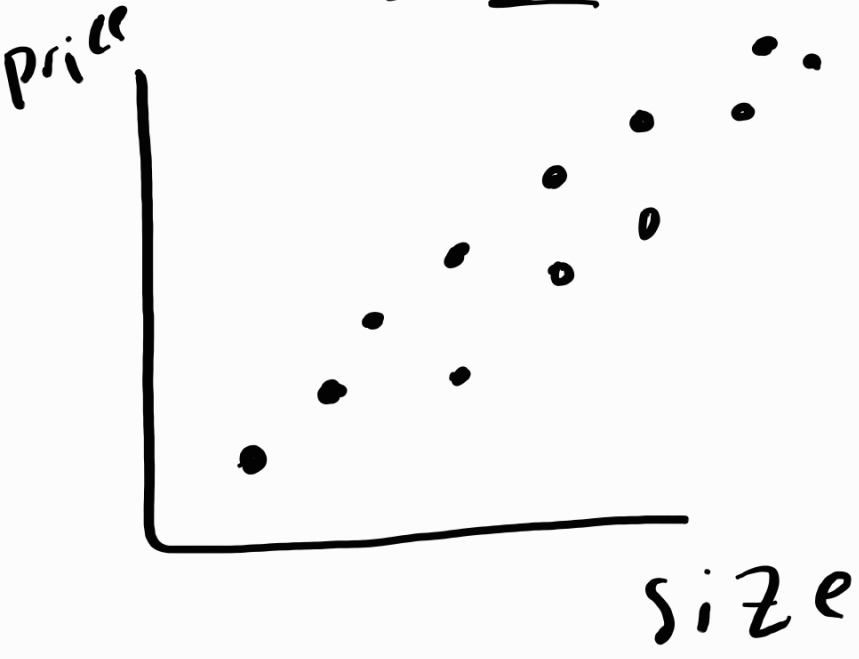
[63 - 64]	4
[65 → 70]	3
[71 - 80]	3
	10

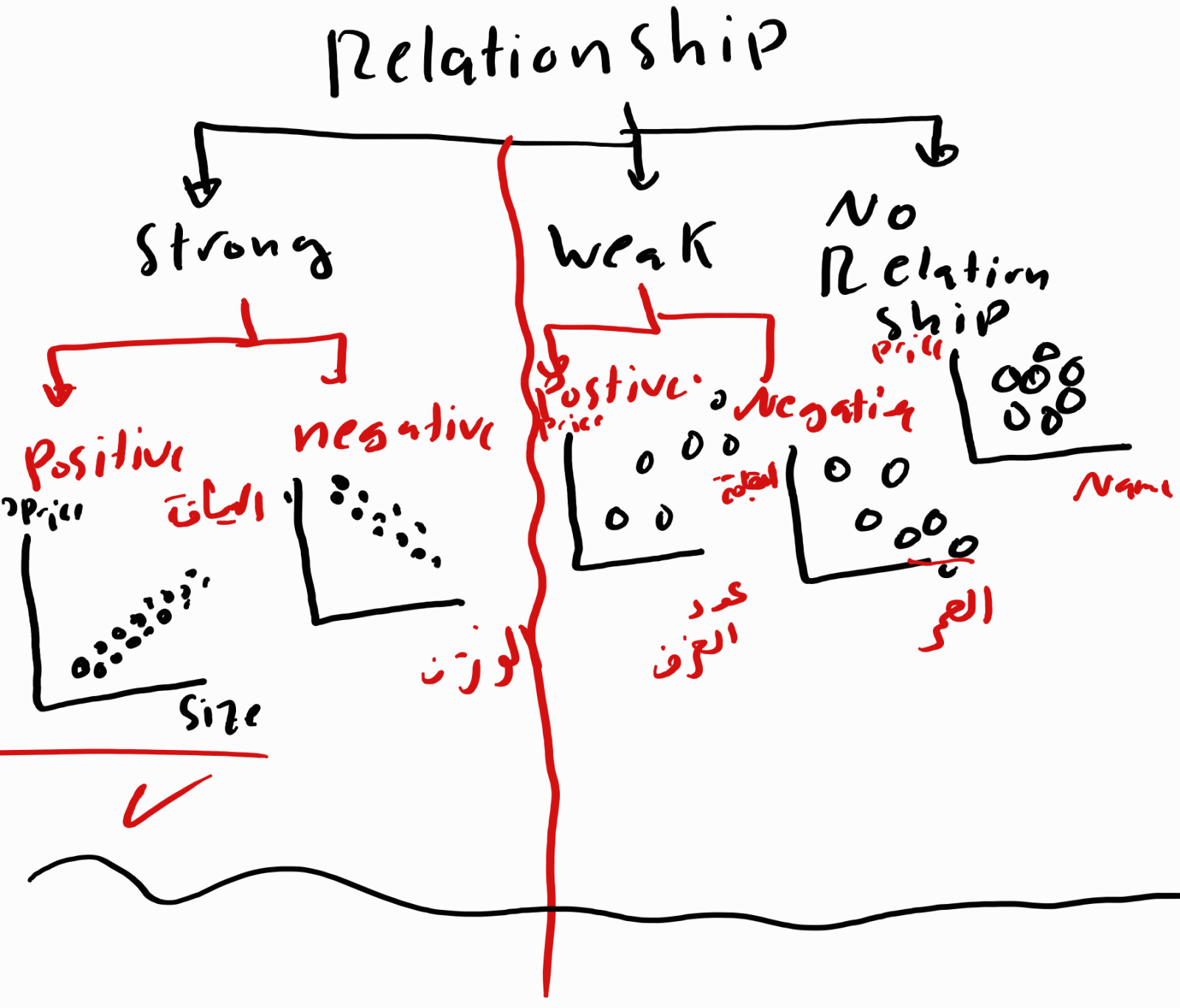


* Scatter plots:



Quantitative




Relationship
Strong
weak
No Relation ship
Positive
negative
Positive
Negative
Price
Size
الوزن
عدد الغرف
العمر
Name