

## -Descriptive statistics

يقوم بتنظيم و تلخيص البيانات يا مجموع المزدوجات  
والرسوم البيانية

## -Inferential statistics

تستخدم لاستنتاج الخصائص أو العدادات بحسب السكان  
من خلال عينة مماثلة.

### Qualitative Data:- (Nominal)

→ consists of attributes, labels, or nonnumerical entries.

like place of birth, Eye color.

### Quantitative data:- (ordinal)

→ Numerical measurements or counts.

like Age, weight of a letter, temperature.

## Levels of Measurement

### Nominal level of measurement:-

- Qualitative data only.
- Categorized using names, labels, or qualities.
- No mathematical computations can be made.

### Ordinal level of measurement:-

- Qualitative data only.
- ~~Categorized~~ Data can be arranged in order.
- Differences between data entries is not meaningful.

Null Hypothesis → it's type of statistical

hypothesis that proposes that no

statistical significance exists in a

set of given observation.

Hypothesis testing → it's used to assess

the credibility of a hypothesis by

using sample data.

p-value is composed  
of

1-the probability random chance would result in the observation

2-the probability observing something else that is equally rare.

3. something rarer or more extreme.

Page : ..... Date : .....

### \* Confidence intervals

..... are the range of values ..... محيط القيمة  
true values of population parameters ..... يحتوي على قيم

### Regression Analysis $\Rightarrow$ التنبؤ بالقيم بناء على نموذج

$$Y_i = f(X_i, \beta) + e_i$$

$y_i$  = dependent variable

( $\beta$ )  $f$  = function

$X_i$  = independent variable

$\beta$  = unknown parameters

$e_i$  = error terms

