



# Estimation Theory

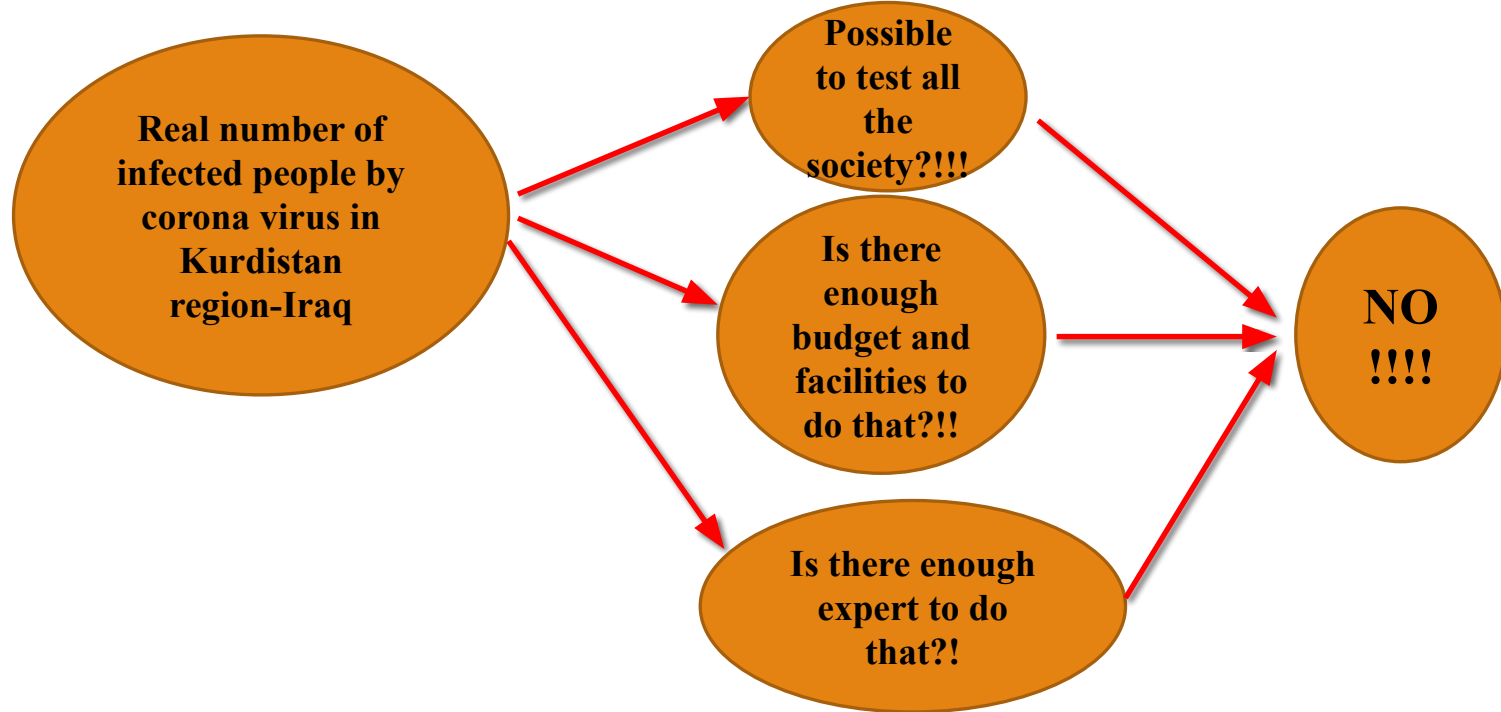
(point estimation)  
by Saman Hosseini

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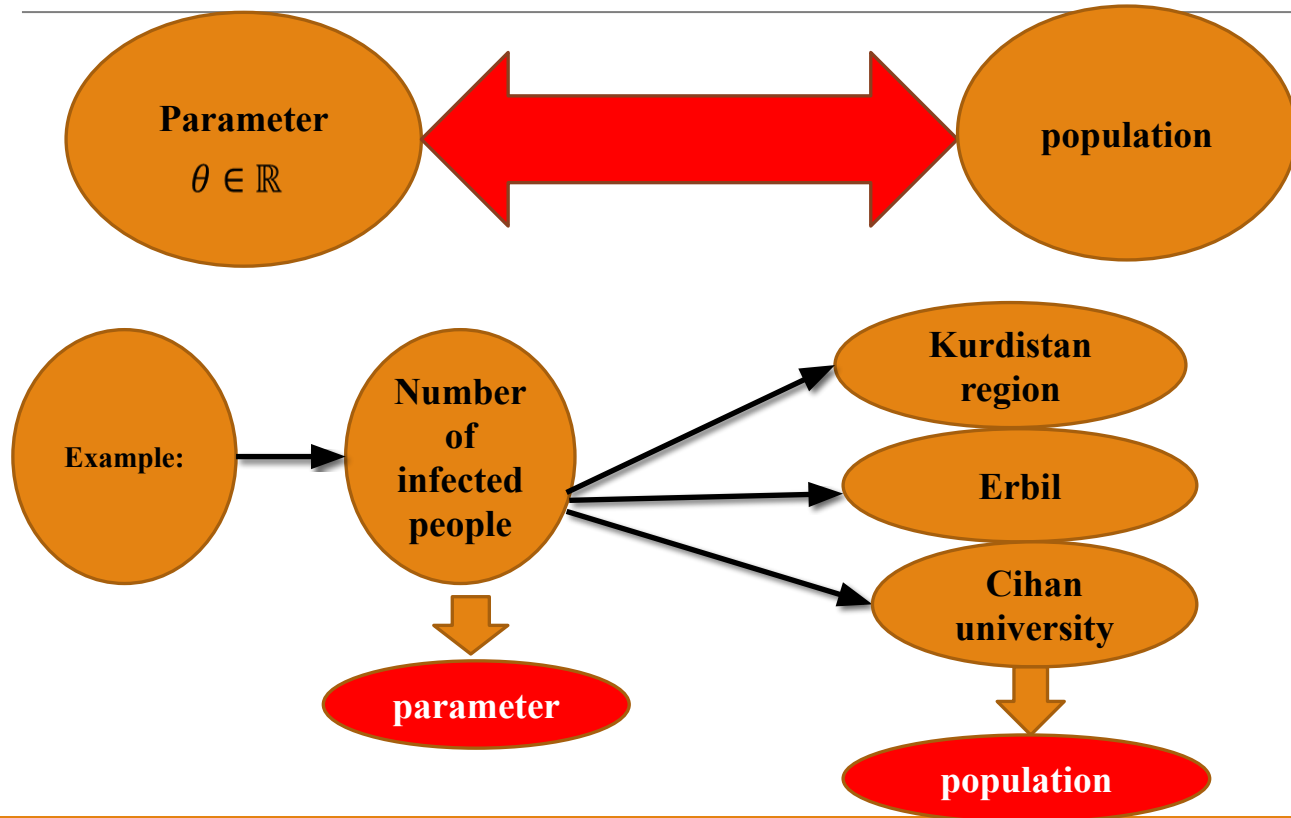
DEPARTMENT OF COMPUTER SCIENCE

## Why estimation!?

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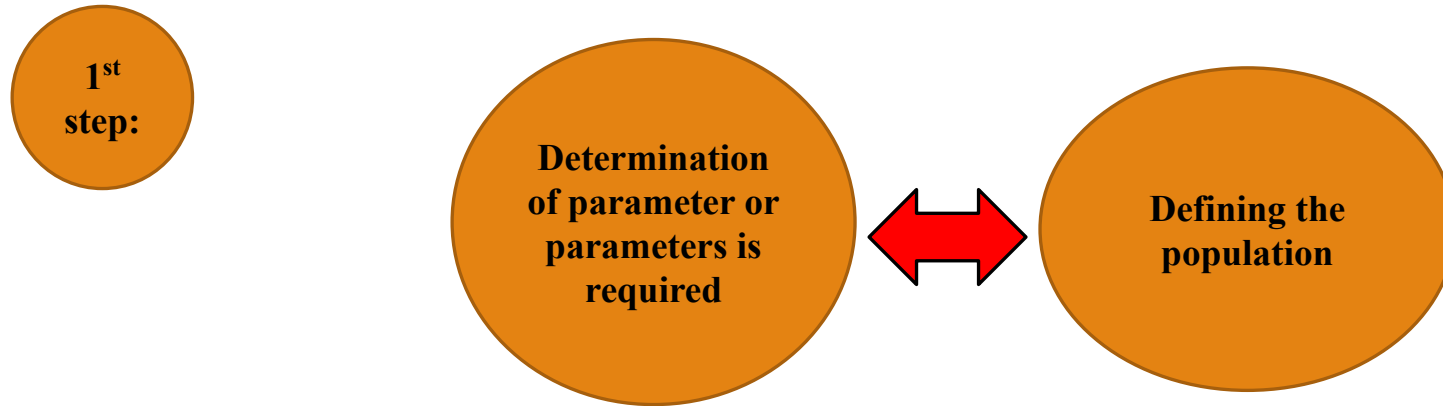


# Some statistical terms related to estimation theory



# Estimation theory steps:

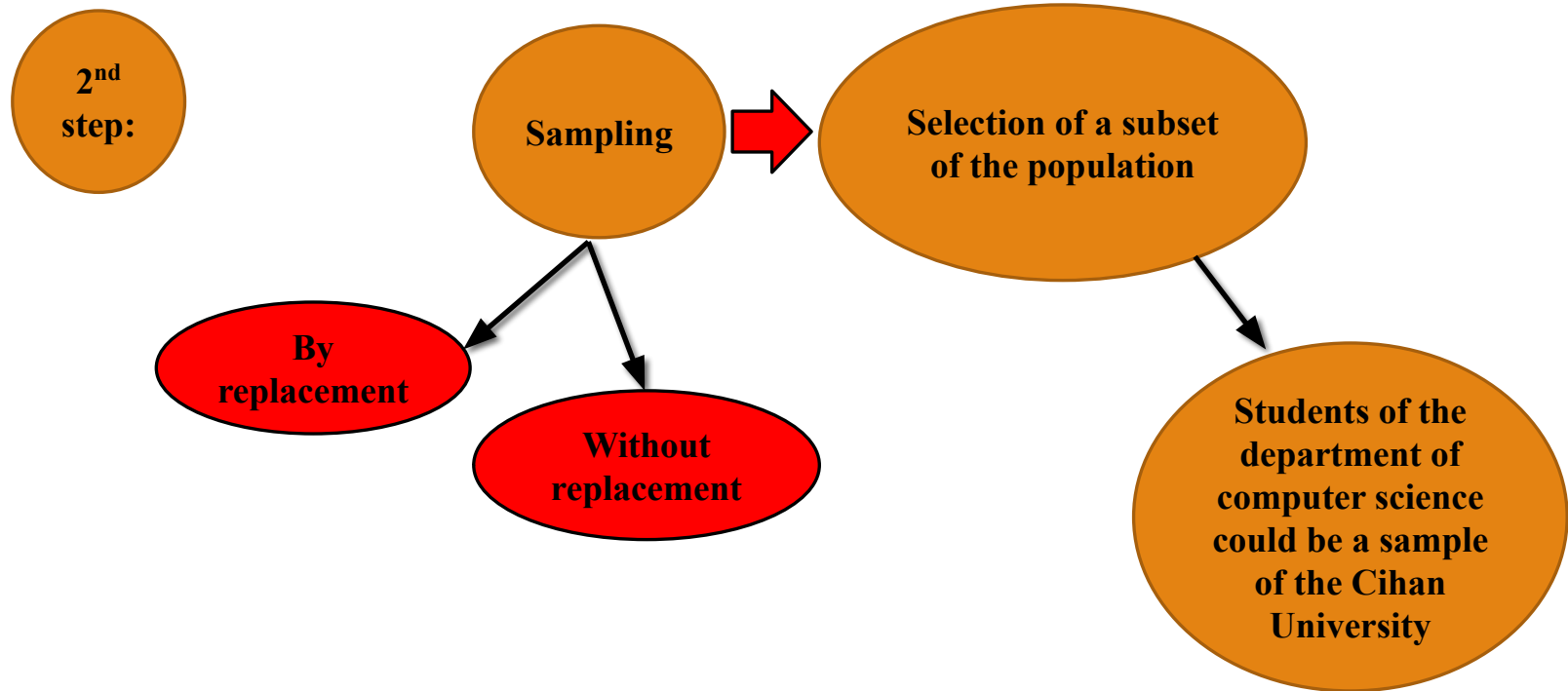
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**Example: The number of infected people by corona virus in Cihan University**

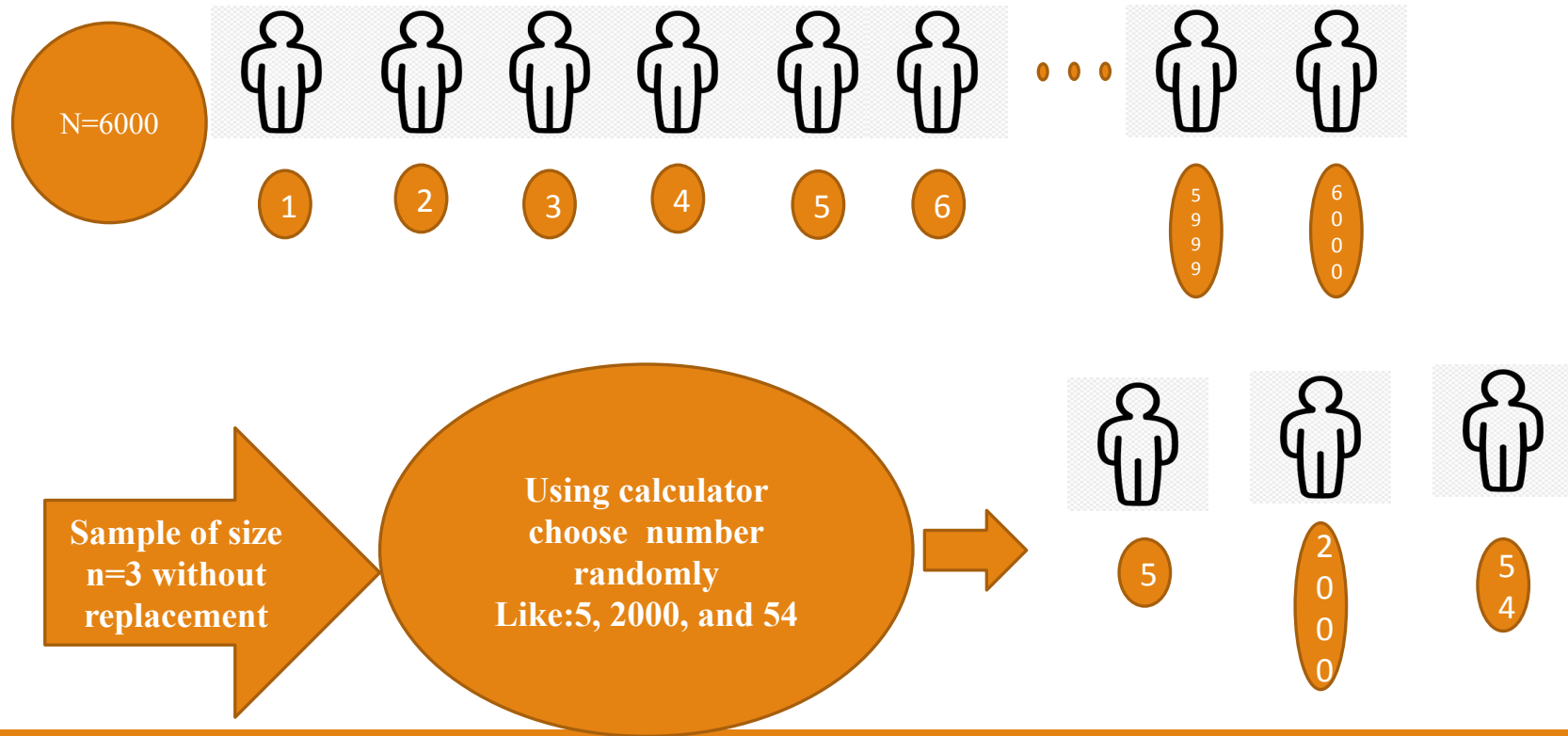
# Estimation theory steps:

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**Example:**

$\theta$  = number of infected students and Population = Cihan university-Erbil

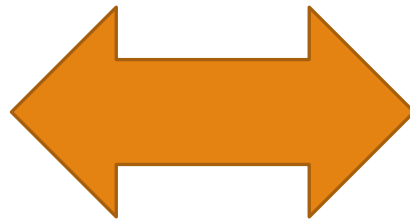


# Estimation theory steps:

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3<sup>rd</sup>  
step

finding a  
good  
estimators



**Estimator:**

- 1-Function of sample.
- 2-It is not a function of the parameter.
- 3-It should be tested by statistical method to find one with acceptable value of error.

# Estimation theory steps:

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Estimation of number of infected people in a population of size  $N = E$

Number of infected people in a sample of size  $m = r$

Sample size =  $m$



$E = (r/m) * N$

$E$  = number of infected students in C.U.  
Population size = 6000  
Sample size = 60  
Number of infected in the sample = 5



$E = (5/60) * 6000 = 500$

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**Thank you very much**

