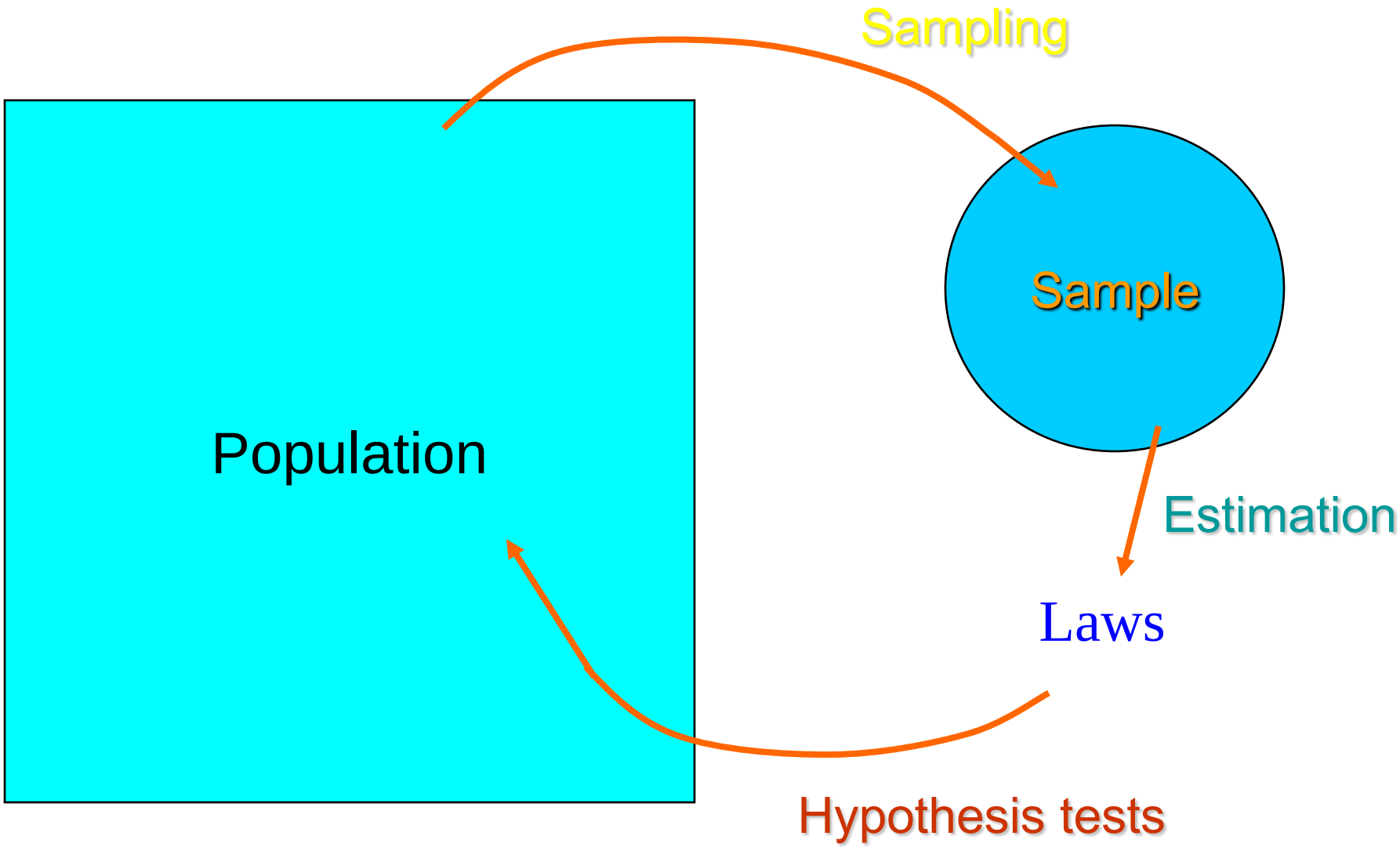
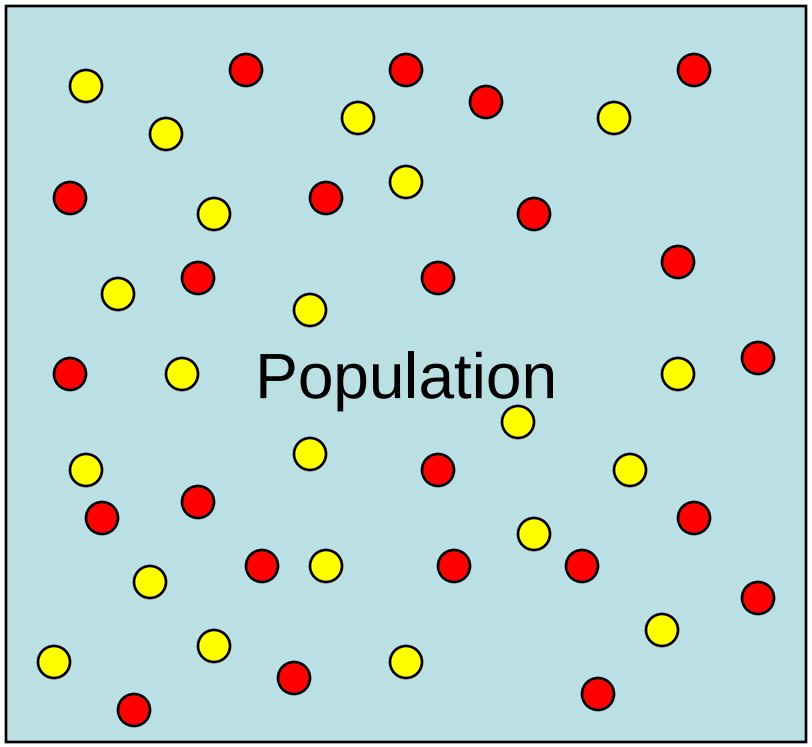
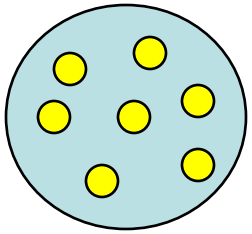
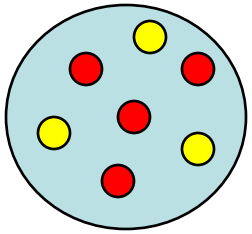






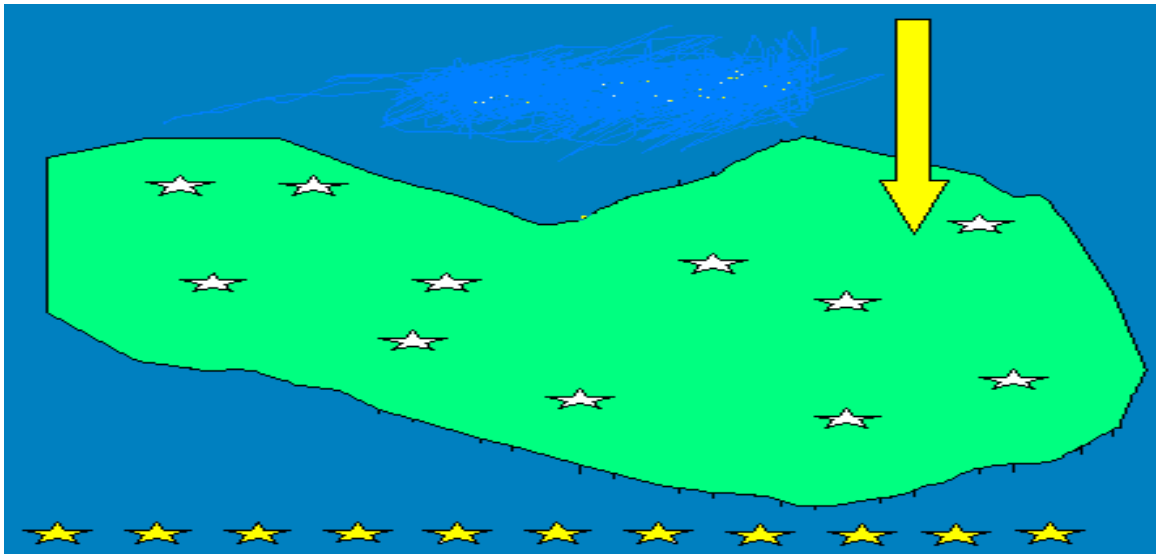


How to do the sampling

- **Representative for the population of study**
- **Corresponding to study target**

Sampling models

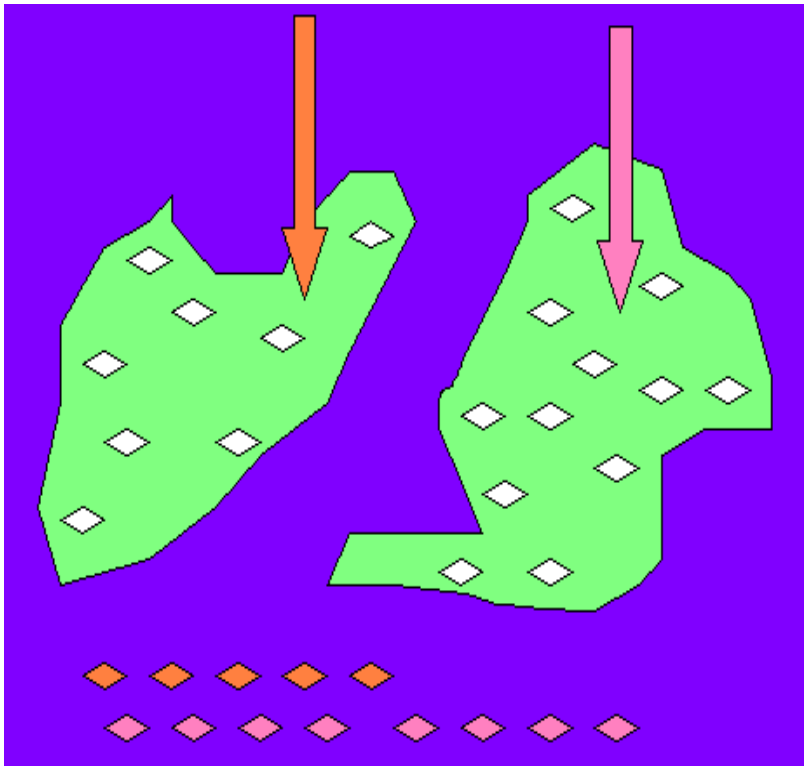
A. One sample model

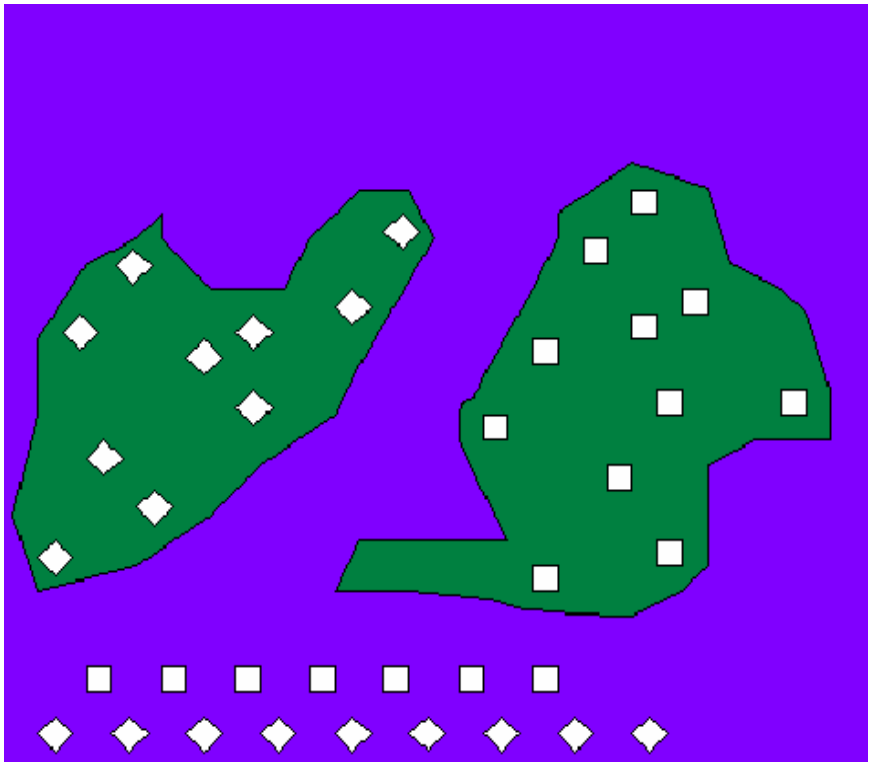


- One sample model usually concerns with an intervention on population: If the intervention should make some change of a parameter compared with a given value?
- **Choose individuals from the population randomly to perform a sample**

- **Example 1.** If in Ha Dong 100% motorcyclists use helms?
- **Example 2.** If proportion of girl-students less than 50% ?
- **Example 3.** If in Viet Nam bred feeding is popular among more than 90% women?

B. Two independent samples model





Model of two groups of objects with different

a) Intervention levels,

b) Individual proper

- **Example 1.** If women are better in foreign languages than men?

- **Example 2.** If there is any difference between Ha Noi and Ho Chi Minh City in immigration from rural areas?

- **Example 3.** If quality of coffee produced in Lam Dong is different than that in Dak Lak?

- **Example 4.** If number of traffic accidents in Ba Dinh district decreased after 15/12/2007?

Notes:

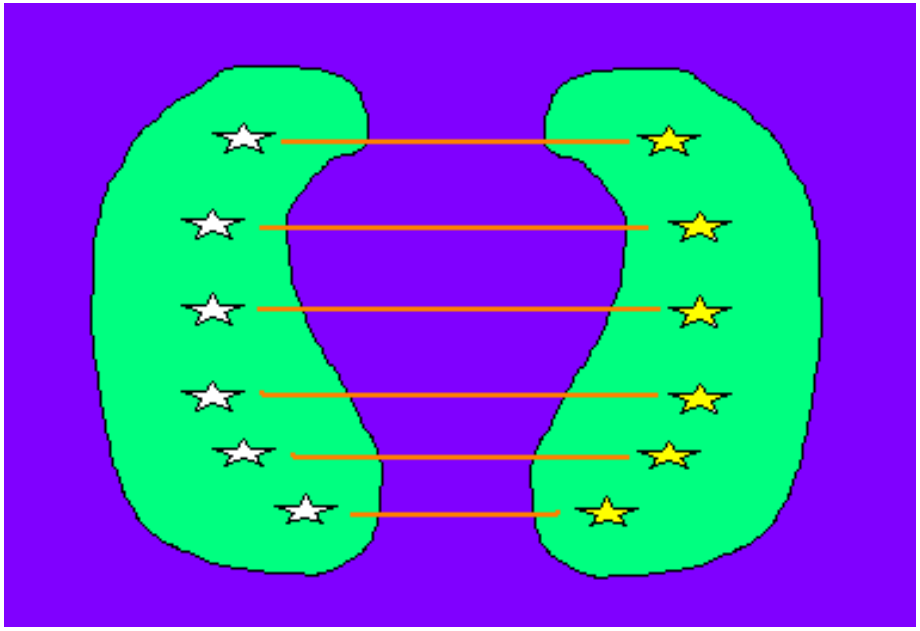
In the model of two independent samples

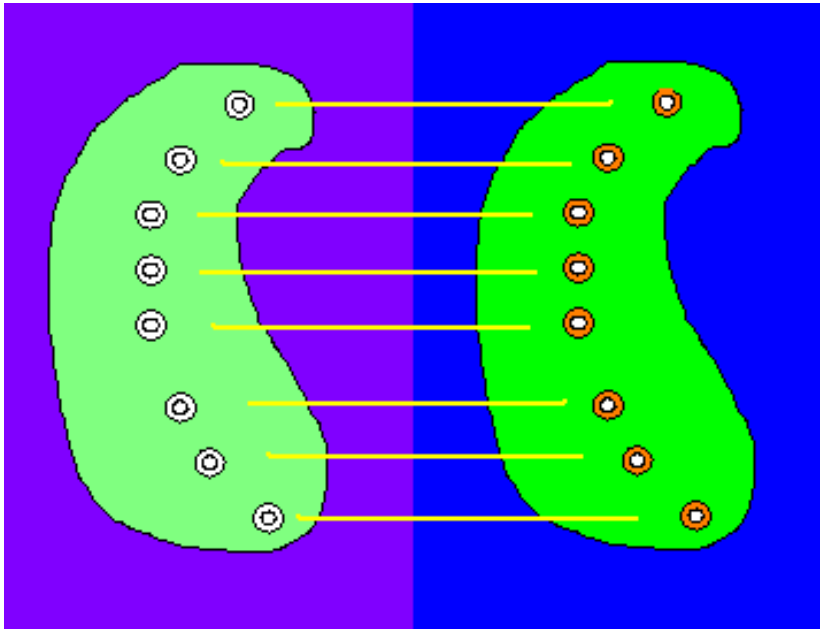
a) Observations numbers in two groups (sample sizes) may be different

b) Observations of each group are independent from those of the second group

c) Sampling: Observations must be randomly selected from each of two groups

C. Model of two dependent (paired) samples





- Two dependent samples model is used in a study when
- A) Each object in the first sample is chosen together with a **similar** (paired) object in the second sample, or
- B) Any object in the second sample is the **same** one in the first sample, but the measures in the two samples are taken under **different conditions**.

Notes: In the model of two paired samples

A) Observations amounts (sample sizes) of two samples are equal

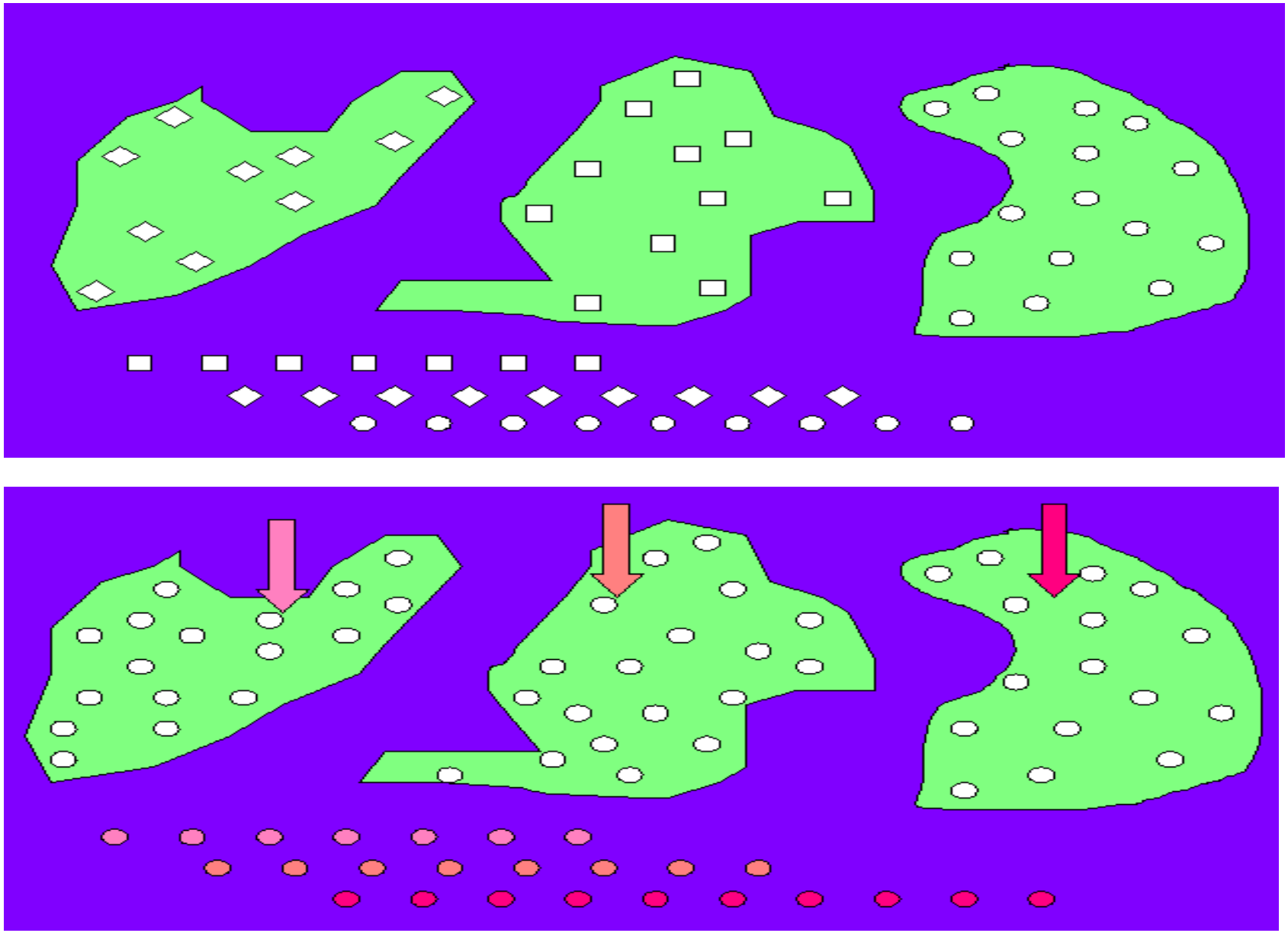
B) Information taken from one observation is related with that of correspondingly paired observation

C) In pairing to perform the samples, all factors which may influence on study issues must be taken into account

Example 1. To investigate the influence of cigarette on hypertension disease: perform two samples of smoking and non smoking people, each person from the non-smoking group is paired with one smoking person similar about age, sex, weight, height, occupation, etc.

Example 2. Comparing 2007 and 2008 there is a changing in opinion about ATM card?

D. Model of multi-independent samples



Notes:

In the model of multi- independent samples

a) Observations numbers in groups (sample sizes) may be different

b) Observations of each group are independent from those of other groups

c) Sampling: Observations must be randomly selected from each of groups

- **Example 1.** Compare examination results of several high schools in Ha Noi

- **Example 2.** Compare salary in different economic sectors

- **Example 3.** Water supplying of ethnic groups?

Exercies

- Book [2] (Statistics): Questions 2.4, 2.5 (page 28), 2.7 (p. 31), 2.8, 2.9 (p.32), 2.16, 2.17 (p. 41), 2.22 (p. 44), 2.25 (p. 46), 2.44 (p. 67), 2.49, 2.50, 2.51, 2.52 (p. 75)