Week 9 Friday

March 8, 2019 8:30 AM

Quiz Tues 31.10

1. Collection and Representation of Data Cnt'd

Ex: Population = {A, B, C, D}

Write out all samples of size 2

{A, B}

{A, C}

{A, D}

{B, C}

{B, D}

{C, D}

6 different samples of size 2

FACT

The # of different samples of size r from a population of size n is written nCr "n choose r"

Above: 4C2

4 2nd F nCr 2 =

5

6 ✓

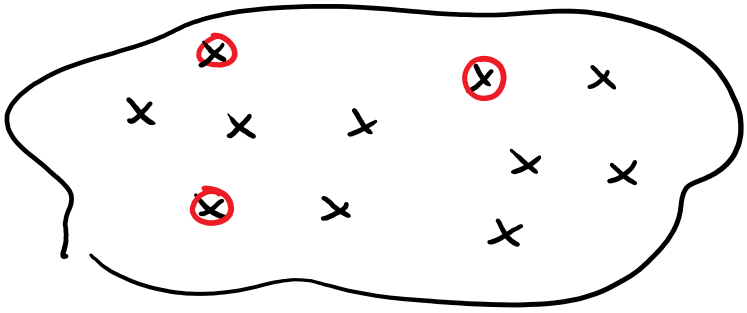
Ex: How many samples of size 10 can be chosen from a population of 100 measurements?

$100C10 \approx 1.7 \times 10^{13}$

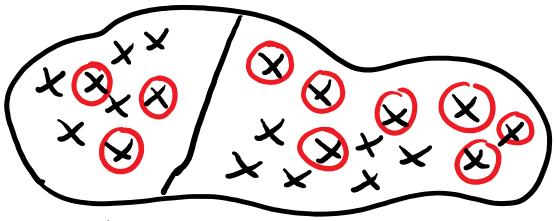
Sampling Methods Handout (on website)

- 4 Main Sampling Methods

1) Simple Random Sample

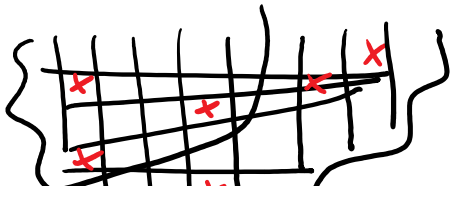


2) Stratified Random Sample

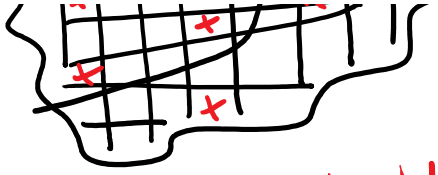


3) Cluster Sample

Map City of Victoria



Blocks = Clusters



Blocks = Clusters

Sample all buildings in the chosen blocks

4) 1-in-k Systematic Sample

x x (x) x x x x (x) x x x x (x) ....

1-in-5 systematic sample

Ex: a) stratified random sample

b) cluster sample

c) simple random sample

d) 1-in-25 systematic sample

Ex: Sample 50 people

How many siblings do you have?

#siblings	frequency
0	11
1	23
2	12
3	4

← # of times that a measurement occurs

Histogram:

Ex:

# siblings	relative frequency
0	$\frac{11}{50} = 0.22$
1	$\frac{23}{50} = 0.46$
2	0.24
3	0.08

← %

Total # of measurements $n = 50$

Relative frequency histogram:

Same shape

Suggested HW on website