task

- [ ] some ppt file. probability ,
- [ ] some ppt file elec ,
- [ ] some ppt file goverment
- [ ] if you can . do some geeks
- [ ] running

time line

task1 probability file

- [ ] 打开转至mobi 10分钟

chapter1

introdcution

probability mesaures uncertainty formally , quantitatively . it is the mathematical language of uncertainty
statistics show some useful information from the uncertain data , and provide the basis for making decisions of choosing actions.

some basic concepts

population

an investigation will typically focus on a well-defined collection of objects(units) . a population is the set of all objects of interest in a particular study.

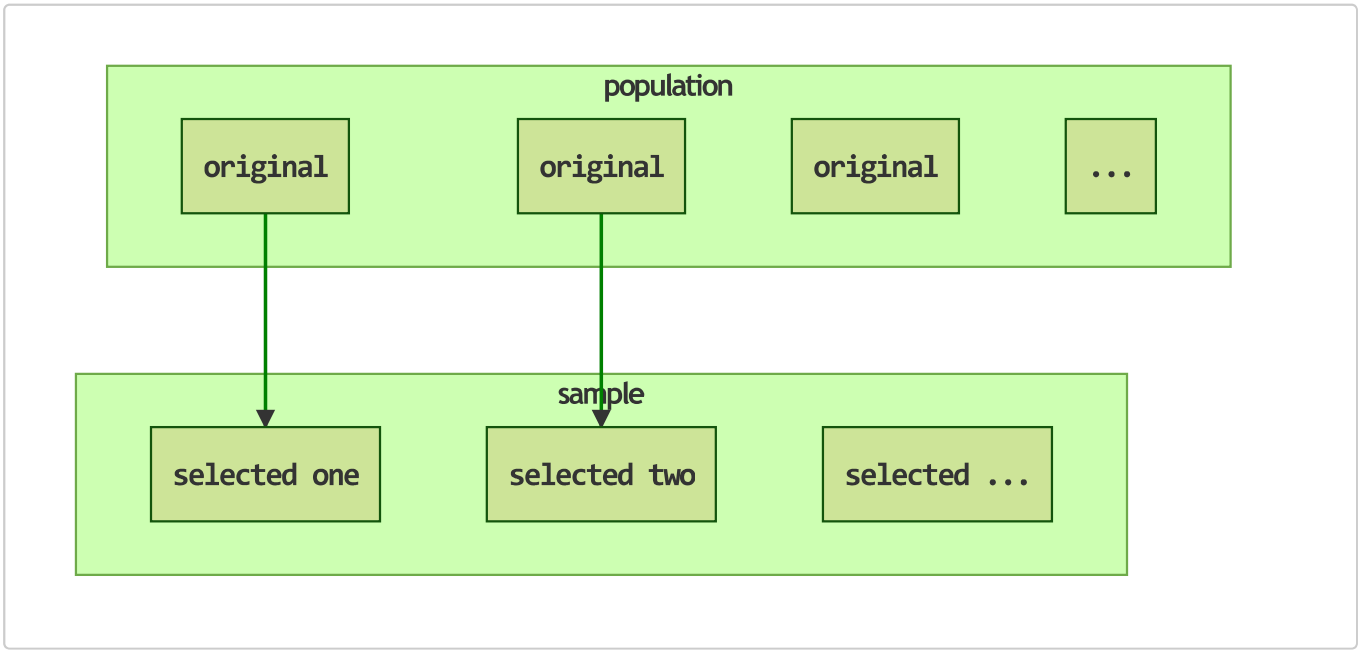
variables

any characteristic whose value(categorical or numerical) may change from one object to another in the population

- keyword: change , value , population

sample

a subset of the population



> tips : according to the number of the variables under investigation, we have
>
> > unvariate : 1 variable
> > bivariate : 2 variables
> > mulvariate: more than variables

inferential statistics

use some information to draw some types of conclusion(make a inference of some sort) about the population

the relation of probability probability and statistics

population to sample : deductive(推断) reasoning (probability)

sample to population : inductive(归纳) reasoning (inferential statistics)

some notation

sample size : by **n**

> tips : give a data set consisting of n observations on some variables x , the individual observations will be denoted by $x_1, x_2, x_3, \ldots, x_n$

display

stem-and-leaf displays

premises : suppose we have a numerical data set $x_1, x_2, \ldots, x_n$ for which each x_i consists of at least two digits.

steps :

> 1. select one or more leading digits for the stem values , the training digits become the leaves
> 2. list possible stem values in a vertical column
> 3. record the leaf for every observations beside the corresponding stem value
> 4. indicate the units for stems and leaves someplace in the display

from R

```
x <- c(16 , 33 , 64 , 37 , 31)
stem(x)
```

repeated from R

```
stem(x , scale = 2)
```

L : denotes the range 0 ,1 , 2 , 3 , 4

H : denotes the range 5, 5 , 7 , 8 , 9

dotplot

premises : the data set is reasonably small or there are relatively few distinct data values

> 1. each observation is represented by a dot above the corresponding loation on a horizontal measurement scale
> 2. when a value occurs more than once , there is a dot for each occurence , and these dots are stacked vertically.

histogram

types of variables

> 1. discrete variables: a variable is discrete if its set of possible values either is a finite or else can be listed in an infinite sequence.
> 2. continuous cariables: a variable is continuous if its possibale values consists of an entire interval on the number line.

digital circuits

逻辑门

练手

- [ ] 13720654 27 分56秒69毫秒
- [ ] 54370537 30 分27秒66毫秒

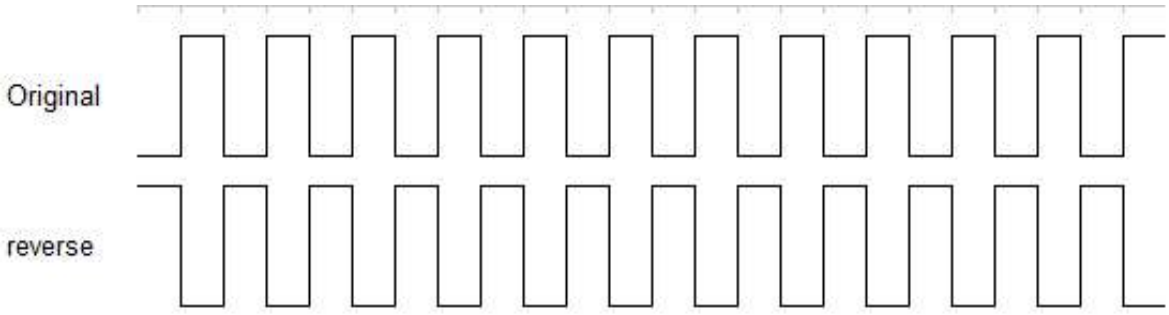
反相器

- 否定指示是一个小圆圈(○): 当其出现在任何逻辑元件的输入或输出位置时， 为反相或者是反码。
- 一般情况下， 输入位于逻辑符号的左侧而输出位位于右侧，当出现在输入位置时，表示0电平有效或者是确定的输入状态，而这个输入称为低电平有效，
- 当出现在输出位置时， 该小圆圈指明0有效或者是确定的输出状态，而这个输出称为低电平

真值表

输入	输出
0	1
1	0

反相器运算



时序图

- 时序图给出了两个或更多的波形在时间上的相互关系
  逻辑表达式

- 布尔表达式使用变量和运算来描述逻辑电路
- 反相器的逻辑表达式(取输入为A,输出为X)

$$X = \overline{A}$$