

Chaper 6 - Confidence Intervals

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Contents

1	CLT and Sampling Distribution	1
2	Margin of Error and Sample Size	2
3	这里的以前雨我无瓜	2

Q1: For sampling distribution, it can have sampling size n and sampling time m , what determines if it follows CLT? n or m ? If we sample for 1 time and 100 times, each time with same size n , does that makes a difference?

1 CLT and Sampling Distribution

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union

## [1] 0.5727877

## [1] 0.1808424
```

```
## [1] 0.1581139
```

```
## [1] 0.528862
```

```
## [1] 0.112364
```

```
## [1] 0.1118034
```

```
## [1] 0.494508
```

```
## [1] 0.08754722
```

```
## [1] 0.09128709
```

```
## [1] 0.5847735
```

```
## [1] 0.5367311
```

```
## [1] 0.5
```

2 Margin of Error and Sample Size

$$n = \left\lceil \frac{z_{\alpha/2}^2 \cdot \sigma^2}{m^2} \right\rceil$$

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