Sampling and estimation – Demo

Probabilities and statistics for bioinformatics (STAT1)

Jacques van Helden

2019-09-20

Contents

Generating a population

```
N <- 1000000
mu <- 50
sigma <- 4
```

1. Generate the observations for a population of size $N = 10^6$, following a normal distribution with mean $\mu = 50$ and standard deviation $\sigma = 4$.

```
# help("Normal")

x <- rnorm(n = N, mean = mu, sd = sigma)
```

2. Draw an histogram representing the distribution of values in the population.

```
hist(x = x,
     breaks = 100,
     main = "Population",
     las = 1,
     col = "#BBDDEE",
     xlab = "values",
     ylab = "")
```
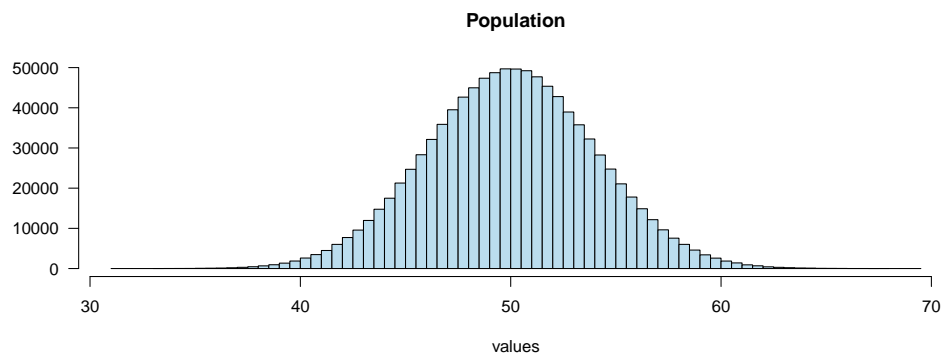

Figure 1: Distribution of numbers in the population.