

Test the Law Of Large Numbers for N random normally distributed numbers with mean = 0, stdev=1:

Create an R script that will count how many of these numbers fall between -1 and 1 and divide by the total quantity of N

You know that  $E(X) = 68.2\%$

Check that  $\text{Mean}(X_n) \rightarrow E(X)$  as you rerun your script while increasing N

Hint:

1. Initialize sample size
2. Initialize counter
3. loop for(i in rnorm(size))
4. Check if the iterated variable falls
5. Increase counter if the condition is true
6. return a result <- counter / N

```
N <- 1000
Counter <- 0

for(i in rnorm(N, mean = 0, sd = 1 ))
{
  if(i >= -1 && i <= 1){
    Counter<- Counter+1
  }
}
result <- Counter/N
```

- What was done in this first practice was to declare some parameters to later do operations with them.
- The counter was initialized with the established ranges so that it will return the numbers between -1 and 1.
- At the end a "return" was added with an operation to obtain its result.