



Tecnológico Nacional de México Instituto Tecnológico de Tijuana

Subdirección Académica
Departamento de Sistemas y Computación
Ingeniería en Sistemas Computacionales
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MINERÍA DE DATOS

BDD-1703SC9A

“Practica 1”

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“Por una juventud integrada al desarrollo de México”

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Practice 1

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:
randNum <- 100000          # 1. Initialize the sample size
counter <- 0               # 2. Initialize counter
for (i in rnorm(randNum)) { # 3. loop for (i in rnorm (size))
  if (i > -1 & i < 1){      # 4. Check if the iterated variable drops
    counter <- counter + 1 # 5. Increase counter if the condition is true
  }
}                          # 6. Returns a result <- counter / N
answer <- (counter / randNum) * 100
print(answer)

> print(answer)
[1] 68.243
```