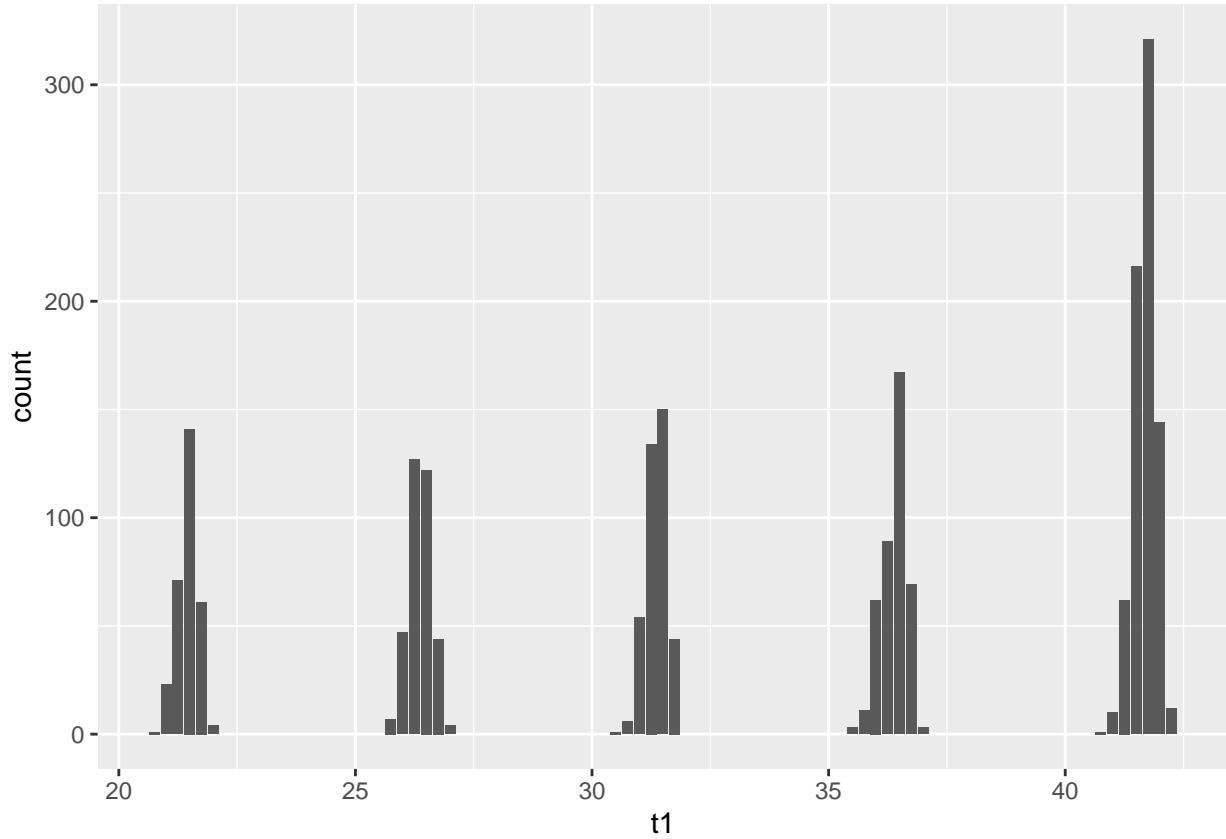


R Notebook

This is an R Markdown Notebook. When you execute code within the notebook, the results appear beneath the code.

Try executing this chunk by clicking the *Run* button within the chunk or by placing your cursor inside it and pressing *Ctrl+Shift+Enter*.

```
##  
## Anexando pacote: 'lubridate'  
  
## Os seguintes objetos são mascarados por 'package:base':  
##  
##     date, intersect, setdiff, union  
  
##           horario      t1      t2      t3      t4      t5      t6  
## 1 1970-01-01 15:05:29 21.25 21.50 20.75 22.00 21.75 21.50  
## 2 1970-01-01 15:05:30 21.25 21.50 20.25 22.25 21.50 21.75  
## 3 1970-01-01 15:05:31 21.50 21.50 20.50 22.25 21.75 21.50  
## 4 1970-01-01 15:05:32 21.75 21.00 20.50 22.25 21.50 21.50  
## 5 1970-01-01 15:05:33 21.50 21.50 21.00 22.50 21.50 21.25  
## 6 1970-01-01 15:05:34 21.75 21.25 21.00 22.50 22.00 21.00
```



Separando ensaios em dataframes diferentes

```
##           horario      t1      t2      t3      t4      t5      t6
## 296 1970-01-01 15:10:24 21.00 21.00 20.75 22.25 21.25 21.50
## 297 1970-01-01 15:10:25 21.25 21.25 21.00 21.75 21.25 21.75
## 298 1970-01-01 15:10:26 21.00 21.25 20.50 22.25 21.75 21.25
## 299 1970-01-01 15:10:27 21.50 21.50 20.75 21.75 21.25 21.75
## 300 1970-01-01 15:10:28 21.50 21.00 20.50 21.75 21.50 21.75
## 301 1970-01-01 15:10:29 21.50 20.75 20.50 22.00 21.25 21.25

##           horario      t1      t2      t3      t4      t5      t6
## 647 1970-01-01 15:39:17 26.25 26.50 25.75 26.75 26.50 26.75
## 648 1970-01-01 15:39:18 26.75 26.25 25.75 27.25 26.25 26.00
## 649 1970-01-01 15:39:19 26.50 26.25 25.25 27.00 26.50 26.00
## 650 1970-01-01 15:39:20 26.75 26.50 26.00 27.25 26.50 26.50
## 651 1970-01-01 15:39:21 26.00 26.50 25.75 27.25 26.00 26.25
## 652 1970-01-01 15:39:22 26.75 26.25 24.75 27.25 26.75 26.50

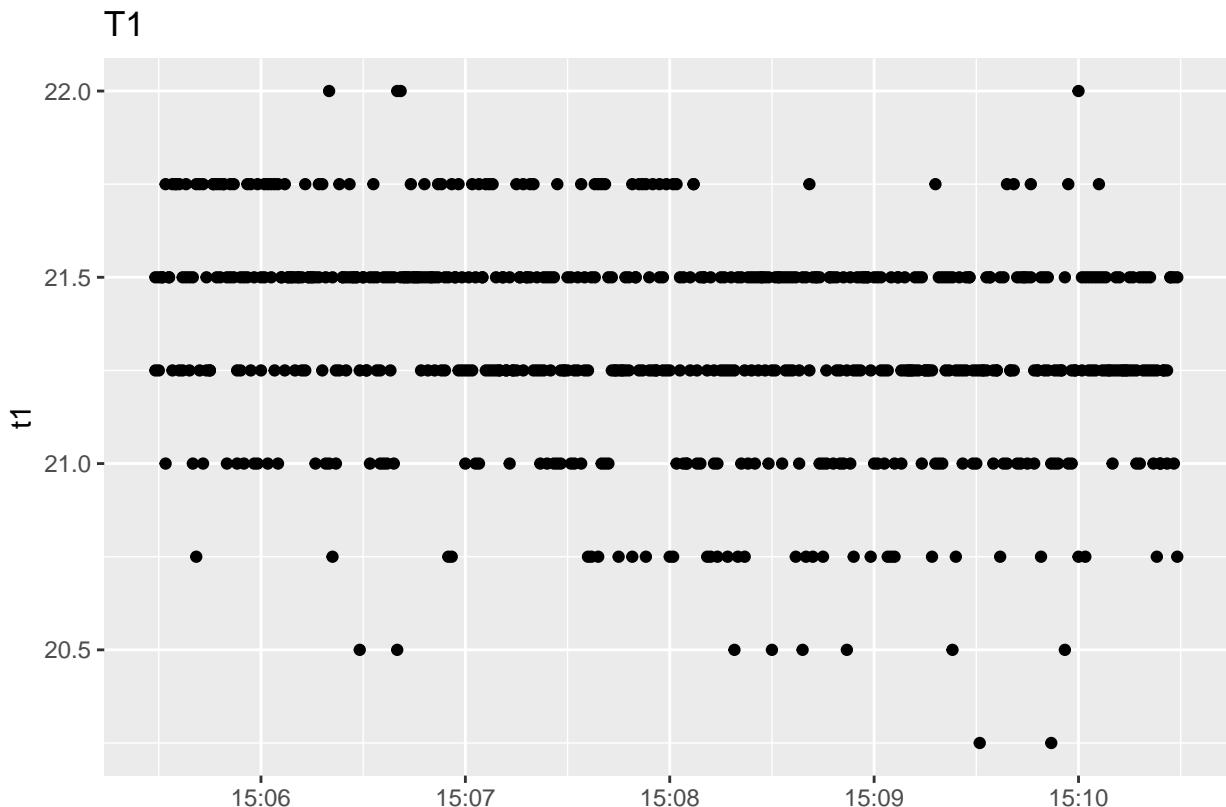
##           horario      t1      t2      t3      t4      t5      t6
## 1036 1970-01-01 16:01:20 31.25 30.50 29.00 32.25 31.50 31.25
## 1037 1970-01-01 16:01:21 31.50 30.25 29.25 32.25 31.25 31.25
## 1038 1970-01-01 16:01:22 31.50 30.75 29.50 32.25 31.00 31.25
## 1039 1970-01-01 16:01:23 31.50 30.75 29.75 31.75 31.00 31.00
## 1040 1970-01-01 16:01:24 31.50 31.00 30.00 32.25 31.50 31.25
## 1041 1970-01-01 16:01:25 31.75 30.75 29.50 32.25 31.25 31.00
```

```

##           horario    t1     t2     t3     t4     t5     t6
## 1440 1970-01-01 19:28:52 36.50 36.00 34.50 37.25 36.50 36.00
## 1441 1970-01-01 19:28:53 36.50 35.50 34.25 37.50 36.50 36.00
## 1442 1970-01-01 19:28:54 36.75 35.50 34.25 37.00 36.75 36.00
## 1443 1970-01-01 19:28:55 36.50 36.00 34.00 37.00 36.75 36.25
## 1444 1970-01-01 19:28:56 36.50 36.25 34.25 37.00 36.25 36.00
## 1445 1970-01-01 19:28:57 36.50 35.75 34.25 37.25 36.75 36.25

##           horario    t1     t2     t3     t4     t5     t6
## 2206 1970-01-01 20:04:25 42.00 41.25 39.25 42.00 41.75 41.00
## 2207 1970-01-01 20:04:26 42.00 41.00 39.50 42.75 41.75 41.25
## 2208 1970-01-01 20:04:27 41.50 41.00 39.75 42.25 41.75 41.25
## 2209 1970-01-01 20:04:28 41.50 41.00 39.75 42.25 41.50 41.50
## 2210 1970-01-01 20:04:29 41.75 40.75 39.00 42.50 40.75 41.25
## 2211 1970-01-01 20:04:30 41.50 41.25 39.25 42.75 41.50 41.50

```



Media dos ensaios

```

##      t1      t2      t3      t4      t5      t6
## 21.45764 21.19020 20.75498 22.00498 21.51412 21.51827

##      t1      t2      t3      t4      t5      t6
## 26.36467 26.09758 25.51211 26.85114 26.24430 26.24430

```

```

##      t1      t2      t3      t4      t5      t6
## 31.35861 30.74550 29.54563 31.88303 31.14267 31.01028

##      t1      t2      t3      t4      t5      t6
## 36.38676 35.76176 34.25928 37.10087 36.33106 36.08168

##      t1      t2      t3      t4      t5      t6
## 41.68277 40.98368 39.48564 42.39360 41.56560 41.23107

```

Erro Absoluto

- ea1 -> ensaio 1 (20°C)
- ea2 -> ensaio 2 (25°C) ...
- ea5 -> ensaio 5 (40°C)

Erro relativo

Média da diferença entre medidas e máxima diferença entre medidas de cada ensaio

```
## [1] "Ensaio 1 (20 C)"
```

```
## [1] 0.4050388
## [1] 1.25
```

```
## [1] "Ensaio 2 (25 C)"
```

```
## [1] 0.4164688
## [1] 1.339031
```

```
## [1] "Ensaio 3 (30 C)"
```

```
## [1] 0.506391
## [1] 1.428663
```

```
## [1] "Ensaio 4 (35 C)"
```

```
## [1] 0.4958402
## [1] 1.360149
```

```
## [1] "Ensaio 5 (40 C)"
```

```
## [1] 0.6571113
## [1] 1.879243
```