```r
library(tidyverse)
tribble( ~x, ~y, ~w, ~z,
         210, 300, 220, 180,
         102, 100, 119, 187,
         176, 175, 188, 173,
         87, 95, 91, 94,
         202, 210, 234, 218,
         110, 122, 131, 128,
) -> dt
dt
```

```r
#1
map(dt, mean)
```

```
## $x
## [1] 147.8333
##
## $y
## [1] 167
##
## $w
## [1] 163.8333
##
## $z
## [1] 163.3333
```

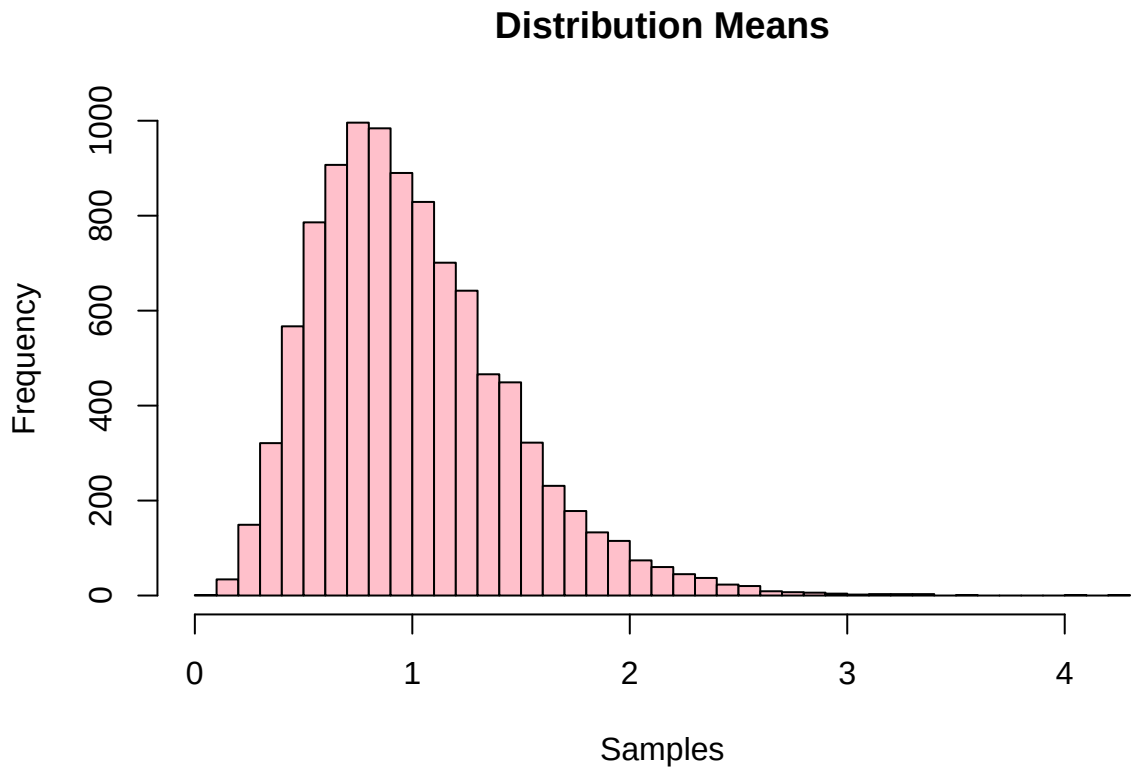
```r
map(dt, sd)
```

```
## $x
## [1] 54.45151
##
## $y
## [1] 79.12016
##
## $w
## [1] 58.40348
##
## $z
## [1] 44.66617
```

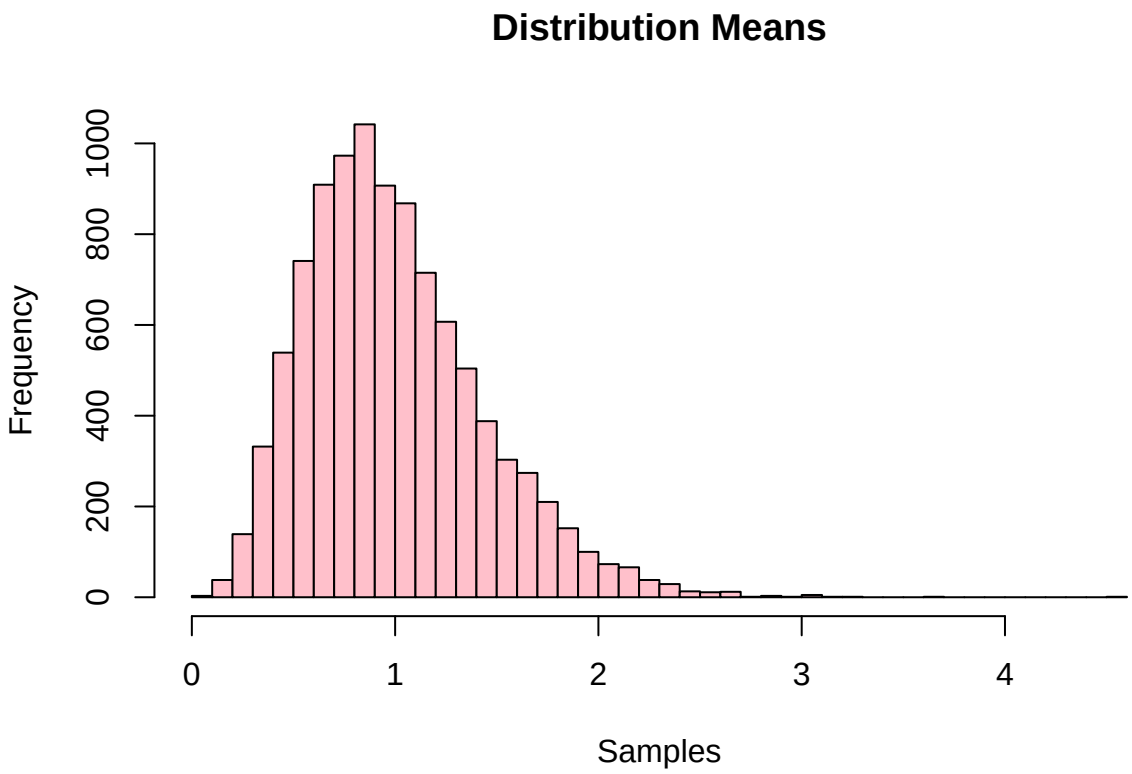
```r
map_df(dt, sqrt)

summary(dt)
```

```
##        x               y               w               z
##  Min.   : 87.0   Min.   : 95.0   Min.   : 91.0   Min.   : 94.0
##  1st Qu.:104.0   1st Qu.:105.5   1st Qu.:122.0   1st Qu.:139.2
##  Median :143.0   Median :148.5   Median :159.5   Median :176.5
##  Mean   :147.8   Mean   :167.0   Mean   :163.8   Mean   :163.3
##  3rd Qu.:195.5   3rd Qu.:201.2   3rd Qu.:212.0   3rd Qu.:185.2
##  Max.   :210.0   Max.   :300.0   Max.   :234.0   Max.   :218.0
```

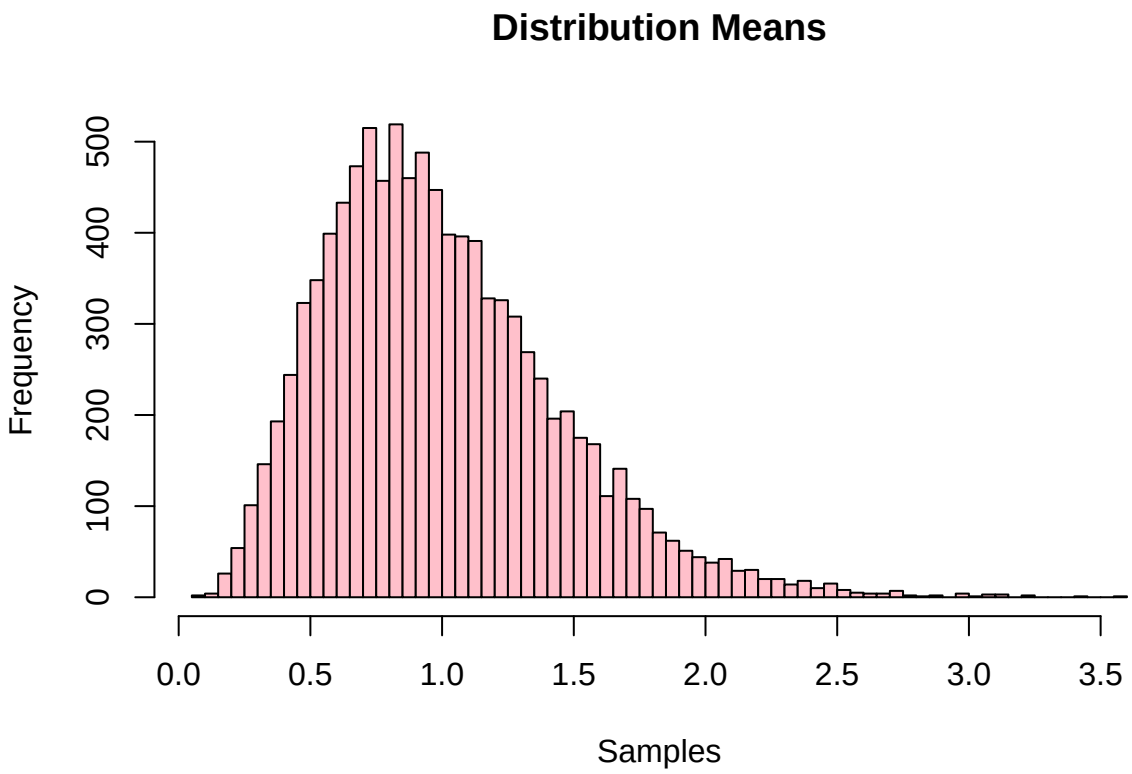
```r
#2
means <- numeric(10000)

for (i in 1:10000) {
  means[i] <- mean(rexp(5, rate = 1))
}

hist(means, breaks = 50, main = "Distribution Means",
     xlab = "Samples", col = "pink")
```



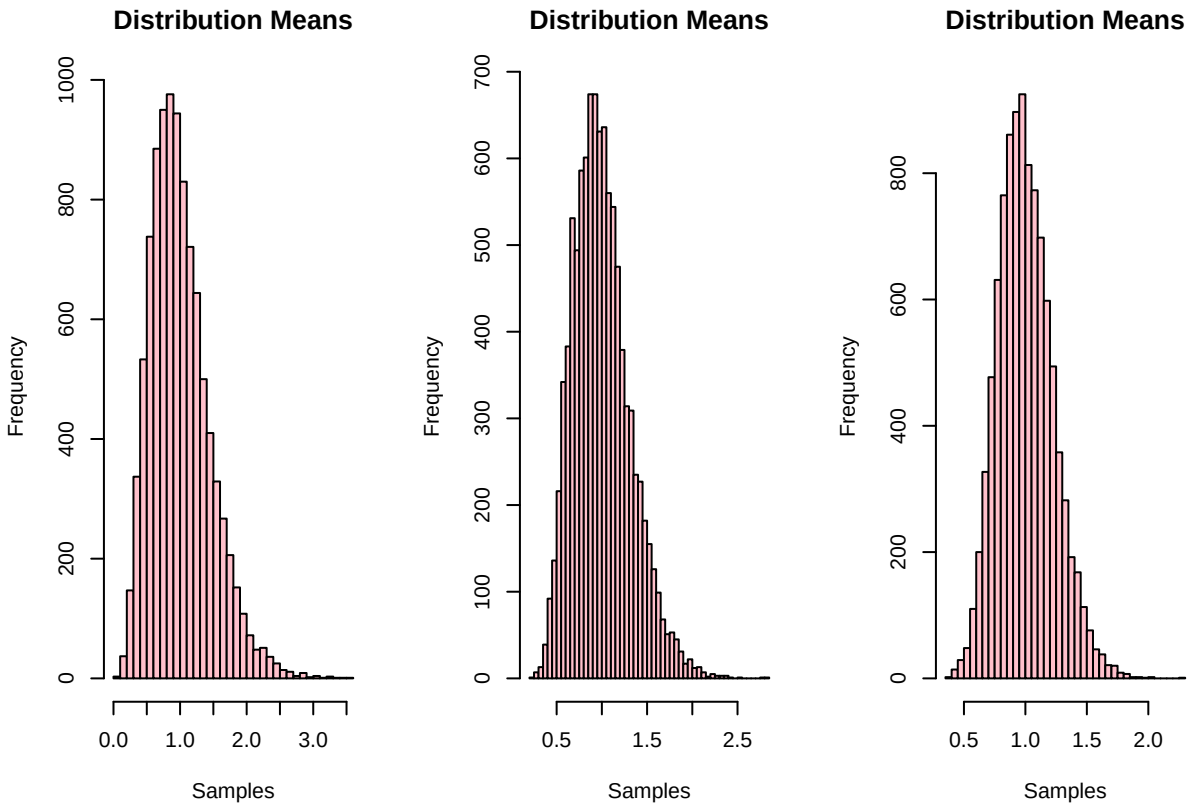

```r
meanmap<- map_dbl(1:10000, ~mean(rexp(5, rate = 1)))

hist(meanmap, breaks = 50, main = "Distribution Means",
     xlab = "Samples", col = "pink")
```




```r
repmean<- replicate(10000, mean(rexp(5, rate = 1)))

hist(repmean, breaks = 50, main = "Distribution Means",
     xlab = "Samples", col = "pink")
```




```
twoc<- c(5, 10, 20)

par(mfrow = c(1, 3))

for (size in twoc) {
  means <- replicate(10000, mean(rexp(size, rate = 1)))

hist(means, breaks = 50, main = "Distribution Means",
     xlab = "Samples", col = "pink")}
```




```
#3
output <- vector("double", ncol(mtcars))
for (i in seq_along(mtcars)) {
  output[[i]] <- median(mtcars[[i]]) # 3. body
}
output
```

```
##  [1]  19.200   6.000 196.300 123.000   3.695   3.325  17.710   0.000
##  [9]   0.000   4.000   2.000
```