$\mu := 0$ $n\_set := 1 \cdot 10^3$ $n\_bins := 20$ $n := 0 .. n\_bins =$

$$\begin{bmatrix} 6 \\ 7 \\ 8 \\ 9 \\ 10 \\ 11 \\ \vdots \end{bmatrix}$$

$\sigma := 2$

$random\_set := \mathrm{rnorm}(n\_set, \mu, \sigma)$

$lower := \mathrm{floor}(min(random\_set))$

$upper := \mathrm{ceil}(\max(random\_set))$

$$w := \frac{upper - lower}{n\_bins}$$

$x_n := lower + w \cdot n$

$int_n := x_n + 0.5 \cdot n$

$F_n := n\_set \cdot w \cdot \mathrm{dnorm}(int_n, \mu, \sigma)$

$normal := \mathrm{hist}(x_n, random\_set)$