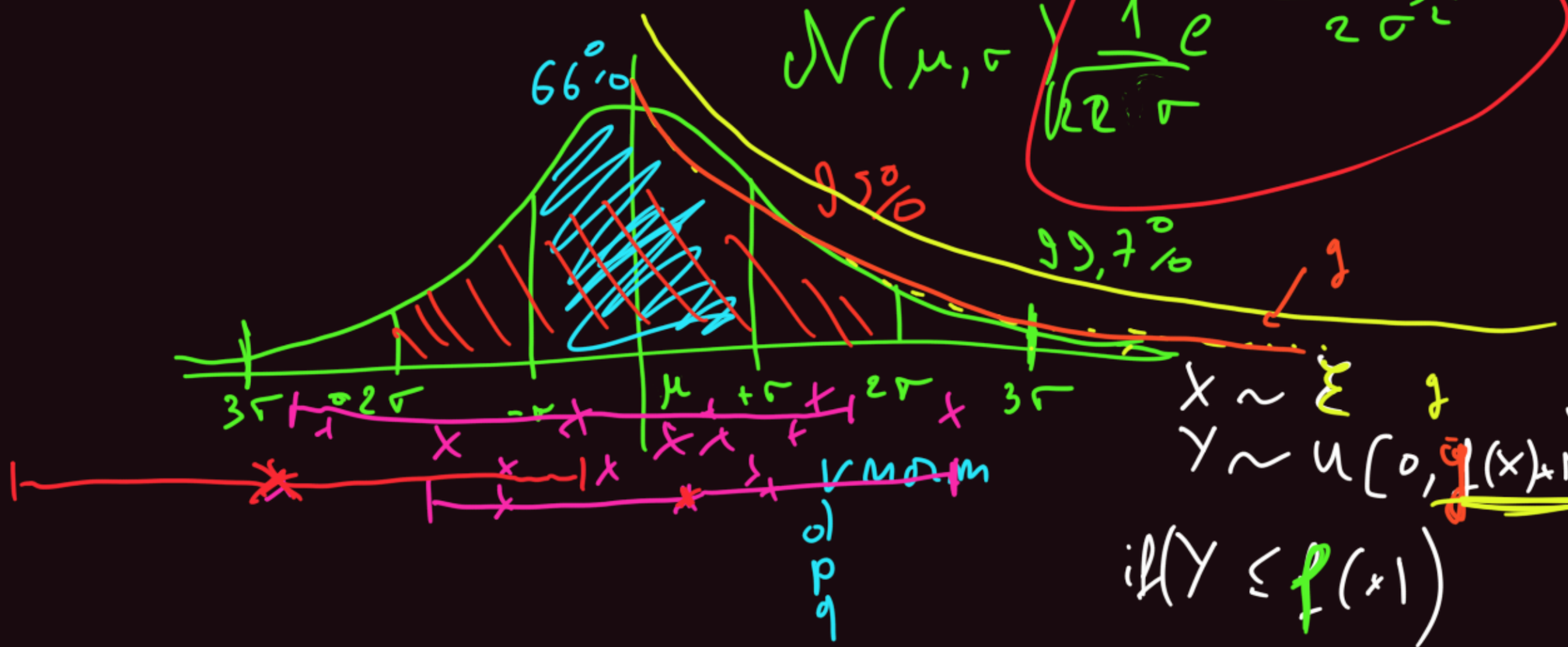
Loi Normale

- Reject
- Prop, TCL, Vect
  - Σ
  - Box Muller

$X_1 \dots X_m$ i.i.d $\mathbb{E}(X)$, $\mathrm{Var}(X)$

$\frac{X_1+\dots+X_m}{m} \underset{m\to+\infty}{\sim} \mathcal{N}\left(\mu, \frac{\sigma^2}{m}\right)$

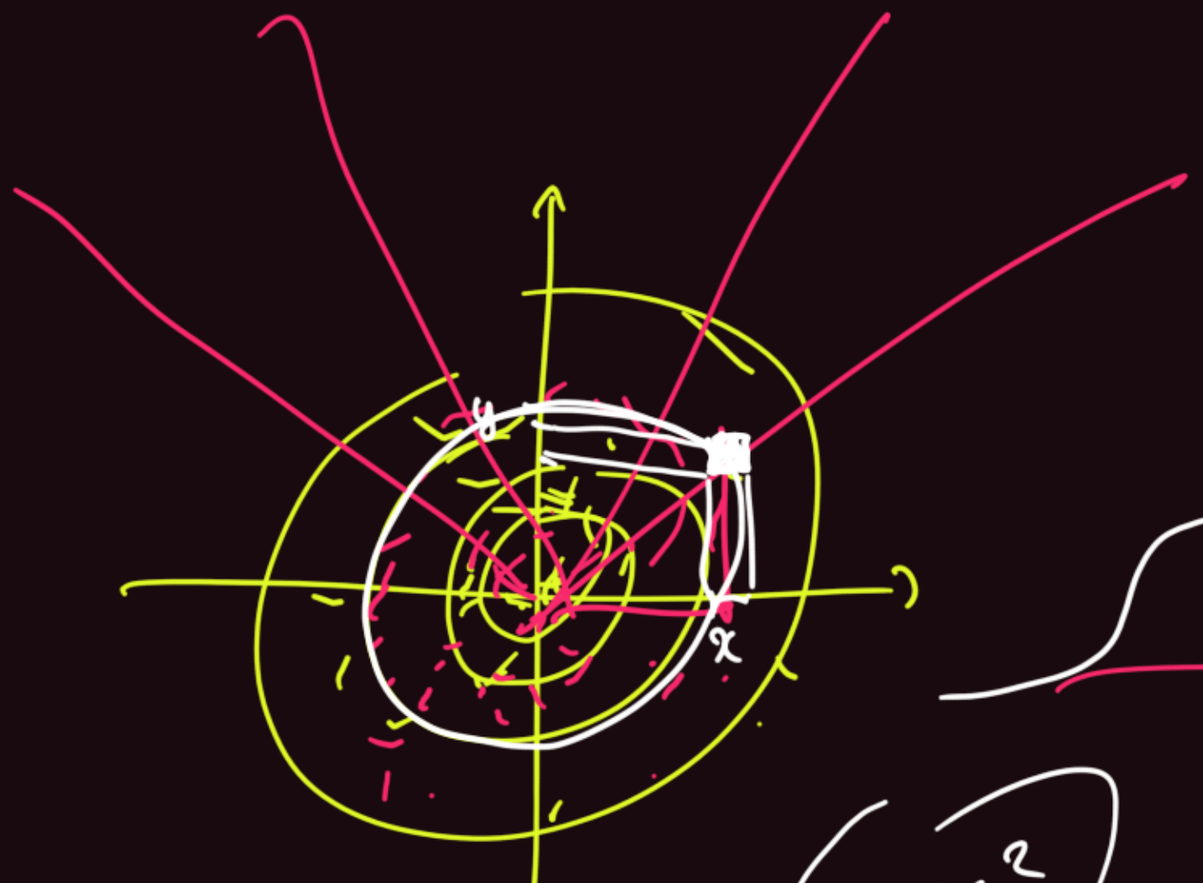
$\mathcal{N}(\mu,\sigma)$ $\frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$



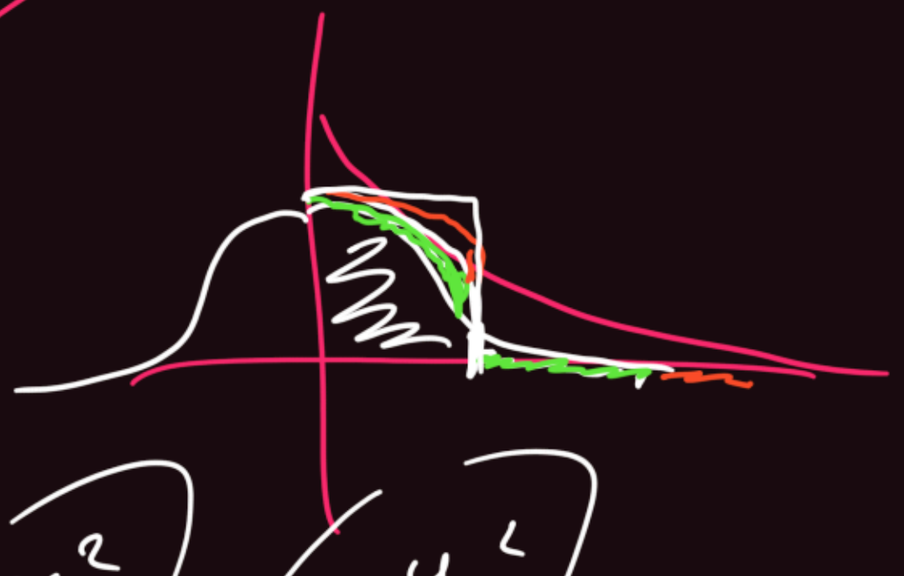
$X \sim \mathcal{E}$ f L

$Y \sim \mathcal{U}[0, f(x)\times M]$

il $(Y \le f(x))$



$$e^{-\frac{(x-\mu)^2}{2\sigma^2}}$$



$$\lambda e^{-\lambda x}$$

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v2 = log(runif(1))
v = sqrt(v2)
theta = runif(1, 0, 2π)
x = v . cos(θ)
y = v . sin(θ)
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$$x+y^2 \sim \mathcal{E}$$

$$e^{-\frac{x^2}{2}} \times e^{-\frac{y^2}{2}}$$

$$e^{-\frac{(x^2+y^2)}{2}} . dx . dy$$

$$1 * e^{-\frac{r^2}{2}} . r \, dr \, d\theta$$

$$1 \times e^{-R_2} . dR_2 . d\Theta$$