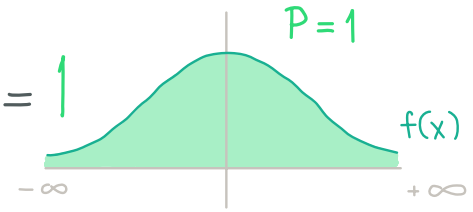
B) SPOJITÁ NÁHODNÁ VELIČINA

(nabývá nekonečně mnoho hodnot - interval)

$$P(X \in (a,b)) = \int_a^b f(x)\,dx$$

$$\int_{-\infty}^{\infty} f(x)\,dx = 1$$

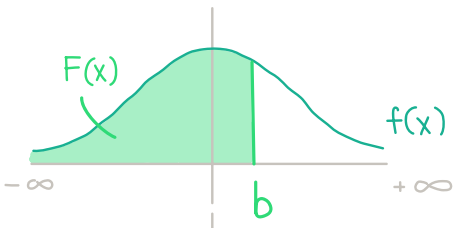


$f(x)$.... hustota pravděpodobnosti

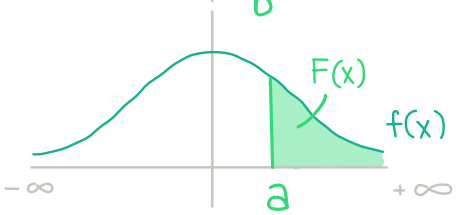
$F(x)$.... distribuční funkce (= pravděpodobnost)

$$f(x) = F'(x)$$

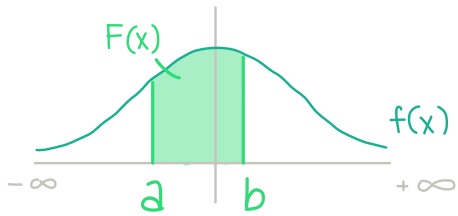
$$P(X \leq b) = F(b) \qquad \int_{-\infty}^{b} f(x)\,dx$$



$$P(X > a) = 1 - F(a) \qquad \int_{a}^{\infty} f(x)\,dx$$



$$P(a < X \leq b) = F(b) - F(a) \qquad \int_{a}^{b} f(x)\,dx$$



střední hodnota

$$EX = \int_{-\infty}^{\infty} x \cdot f(x)\,dx$$

rozptyl

$$\operatorname{Var} X = \int_{-\infty}^{\infty} x^2 \cdot f(x)\,dx - (EX)^2$$

směrodatná odchylka

$$sd X = \sqrt{\operatorname{Var} X}$$