PROBABILITY DISTRIBUTIONS: CHALLENGES

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DIFFERENCE OF TWO RANDOM VARIABLES

- Let $X \sim N(\mu_X = 3, \sigma_X = 1)$
- $Y \sim N(\mu_Y = 2, \sigma_Y = 2)$
- X and Y are statistically independent
- Task 1: What is $P(X > Y)$? (Hint: define $Z = X - Y$).
- Task 2: Implement code that solves the task by simulation, i.e. create a function `my.simulation(n.reps, mu.x, mu.y, sigma.x, sigma.y)` where `n.reps` governs the number of repetitions / the precision of the simulation.