1. **Gaussian random variables**

   Give an example of a random vector $f = (f_1, f_2) : \Omega \to \mathbb{R}^2$, such that f_1 and f_2 are Gaussian, but the vector (f_1, f_2) is **not** Gaussian, i.e. there are some $a_1, a_2 \in \mathbb{R}$ such that $a_1 f_1 + a_2 f_2$ is not Gaussian.

2. **Positive semi-definite**

   Proof that the function $\Gamma(s,t) := \min\{s,t\}$ is positive semi-definite.

3. **From the lecture**

   Prove Theorem 1.7 using Theorem 1.6.

   Hint: You might use the script 1a ...