# Seminar 4
# Maximum Likelihood criterion (cont'd)
## DEDP

1. A signal can have four possible values: -6, -2, 2, 6. Each value lasts for 1 second. The signal is affected by white noise with normal distribution. The receiver takes 1 sample per second. Using ML criterion, decide what signal has been transmitted, if the received samples are:

$$4, 6.6, -5.2, 1.1, 0.3, -1.5, 7, -7, 4.4$$

2. A signal can have two possible values, $s_0 = -3$ or $s_1 = 3$. The signal is affected by gaussian noise with distribution $\mathcal{N}(0, 1)$. The receiver performs ML decision based on a single sample $r$.

    a. In hypothesis $H_0$, which for what values of $r$ do we get a false alarm?
    b. Compute the conditional probability of false alarm, $P(D_1|H_0)$
    c. Compute the other three conditional probabilities (correct rejection, miss, correct detection)

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