

Risk analysis lab 2014. 09. 22. (Matlab introduction, part 2.)

1. Create a Matlab function which calculates a histogram for a normal distribution (with an arbitrary μ and $\sigma > 0$):

```
p = function getHistogram(x)
```

- x is a vector containing the ranges for each bin (x_i is the endpoint of the i th bin).

- p is a vector containing the probabilities of each specified bin range:

$$p_i = P(x_{i-1} < X \leq x_i), x_0 = -\infty.$$

(Note that this vector can be considered as a histogram of a continuous p.d.f. or a description of a discrete p.d.f.)

- Hint: see `normpdf` or `pdf`.

- Try to use multiple type of distributions.

2. Plot the generated histogram for $x_i = i, i = 1, \dots, L$ (lab2.m).

3. Calculate $P_C = P(X > C)$ (the complementary cumulative distribution function) for a given $1 \leq C \leq L$. (Place the function into `ccdf.m`.)

```
function P = ccdf(x, p, C)
```

4. Plot the tail distribution for $C = 1, \dots, L$ (use the same figure as in 2.).