18.10.2022

Laboratory 2

7.

a. Write a predicate to compute the intersection of two sets.

b. Write a predicate to create a list (m, ..., n) of all integer numbers from the interval [m, n].

a.

$$final(l_1 l_2 \dots l_n, e) = \begin{cases} \text{true}, & \text{if } l_1 = e \\ \text{false}, & \text{if } n = 0 \\ final(l_2 \dots l_n, e), & \text{otherwise} \end{cases}$$

$$intersection(l_1 l_2 \dots l_n, c_1 c_2 \dots c_m) = \begin{cases} \varnothing, & \text{if } n = 0 \text{ or } m = 0 \\ \{l_1\} \cup intersection(l_2 \dots l_n, c_1 \dots c_m), & \\ \qquad \text{if } final(c_1 \dots c_m, l_1) = \text{true} & \\ intersection(l_2 \dots l_n, c_1 \dots c_m), & \text{otherwise} \end{cases}$$

b.

$$integer(a, b) = \begin{cases} \varnothing, & \text{if } a > b \\ [a], & \text{if } a == b \\ \{a+1\} \cup integer(a+1, b), & \text{otherwise} \end{cases}$$