# 1. praks

Funktsioon loengust:

$$\mathsf{fact}(x) = \begin{cases} 1 & \text{kui } x = 1 \\ \mathsf{fact}(x-1) & \text{muidu} \end{cases}$$

Praktikumi funktsioonid:

$$\mathsf{sumInt}(x) = \begin{cases} 0 & \text{kui } x = 0 \\ \mathsf{sumInt}(x-1) + x & \text{muidu} \end{cases}$$

$$\mathsf{fib}(x) = \begin{cases} 0 & \text{kui } x = 0 \\ 1 & \text{kui } x = 1 \\ \mathsf{fib}(x-1) + \mathsf{fib}(x-2) & \text{muidu} \end{cases}$$

$$x^n = \underbrace{x \cdot x \cdot \ldots \cdot x}_{n \text{ tegurit}}$$

$$\mathsf{syt}(x, y) = \begin{cases} x & \text{kui } y = 0 \\ \mathsf{syt}(y, \mathsf{mod}\ x\ y) & \text{muidu} \end{cases}$$

kus $\mathsf{mod}$ on Haskelli jagamise jäägi operaator

$$\mathsf{mc}(x) = \begin{cases} x - 10 & \text{kui } x > 100 \\ \mathsf{mc}(\mathsf{mc}(x+11)) & \text{muidu} \end{cases}$$

$$A(m, n) = \begin{cases} n + 1 & \text{kui } m = 0 \\ A(m-1, 1) & \text{kui } m > 0 \text{ ja } n = 0 \\ A(m-1, A(m, n-1)) & \text{muidu} \end{cases}$$

$$\mathsf{modulo}(x, y) = f(x)$$

$$\text{kus} \quad f(n) = \begin{cases} n & \text{kui } n < y \\ f(n-y) & \text{muidu} \end{cases}$$

Kodus:

$$i(x) = x$$

$$p(n,k) = \underbrace{n \cdot (n-1) \cdot \ldots \cdot (n-(k-1))}_{k \text{ tegurit}}$$

$$c(n,k) = \binom{n}{k}$$

Kus binoomkordaja leidmiseks kasutada reegleid

$$\binom{n}{0} = \binom{n}{n} = 1$$

ja

$$\binom{n}{k} = \binom{n-1}{k-1} + \binom{n-1}{k}, \quad \text{kui } 1 \leq k \leq n-1$$

$$d(x,y) = f(x,0)$$

$$\text{kus} \quad f(n,z) = \begin{cases} z & \text{kui } n < y \\ f(n-y, z+1) & \text{muidu} \end{cases}$$